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IT FACES PUBLIC POLICY STRUGGLES

Compliance issues arise as states set own laws

BY PATRICK THIBODEAU
WASHINGTON

When North Dakota residents voted this month for a tougher financial privacy law, it was another solid piece of evidence that the states — not Congress — are taking the lead in passing laws affecting IT.

The trend is potentially disturbing for companies that have to adapt IT systems to comply with differing state laws.

POLICY-MAKING

For example, California has passed a law requiring the removal of Social Security numbers from correspondence between financial institutions and their customers. That law takes effect July 1.

Fireman's Fund Insurance Co. is spending between $500,000 and $1 million to ensure that all of its systems and

Compliance, page 63

SIM could provide voice for IT managers

BY PATRICK THIBODEAU
WASHINGTON

When it comes to public policy, IT leaders are often followers. Public policy debates affecting IT are largely shaped by battling industry trade groups and special interest groups, rather than by people with the most knowledge of the potential impact of those decisions.

But this is becoming less acceptable, say users, who, to a great extent, have been spurred into action by the vendor-driven Uniform Computer Information Transactions Act.

The Society for Information Management, a Chicago-based not-for-profit organization that has about 2,500 members, many of whom are senior IT managers, has taken a strong

SIM, page 63

OBJECT MODELS GET ANOTHER GO

Web services spark new look at component use

BY MICHAEL MAEHAN
LOS ANGELES

Component-based methods of developing applications didn't win many converts in the past. But IT managers who attended a Gartner Inc. middleware conference here last week said emerging "service-oriented architecture" approaches built around Web services technology look like a sure thing.

The service-oriented development model separates application code from the data and user interface layers and puts a top priority on integration capabilities. Proponents

Web Services, page 63

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MICROSOFT DEALS AS FISCAL YEAR CLOSES

Some users find vender willing to grant concessions as license deadline nears

BY CAROL SLIWA

Corporate users who have dragged their feet on signing up for Microsoft Corp.'s controversial new volume-licensing program might want to get into negotiation mode this week.

Microsoft's fiscal year ends June 30, and some analysts and enterprise customers said the software maker has become increasingly flexible.

"They're quite a bit more amenable to giving concessions than they were even two months ago," said Julie Giera,

an analyst at Giga Information Group Inc. in Cambridge, Mass. In the past six weeks, some of her firm's clients have reported bigger discounts on licenses and the bundling of free or discounted consulting and training, she said.

Giera couldn't say whether that's because the fiscal year is ending or because Microsoft sees many users still undecided about its new licensing program as the July 31 deadline for important software upgrade options looms.

But Microsoft CEO Steve Ballmer acknowledged that his company has been "making deals." He declined to specify which items are negotiable, but he said support has been an element. Support isn't typically included in Microsoft's software maintenance program.

"If there are customers that have issues, of course we're going to try to earn that customer's trust by creating a

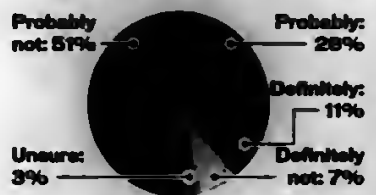
Microsoft, page 12

STICKING FAST TO PLAN

Ravaged by shrinking profit margins, slow sales and heavy layoffs, companies are reluctant to stray from their initial 2002 IT budgets and strategic plans, which, above all else, call for cutting costs.

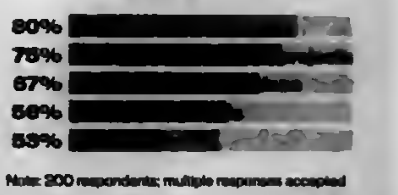
Averting budget risks is the name of the game as we move into the second half of a year that will end with few financial surprises, if CIOs have their way. Page 44

If profits improve over the next three to six months, would you increase your technology spending above the current plan?



SOURCE: MORGAN STANLEY DEAN WITTER & CO., NEW YORK; SURVEY OF 200 CIOS, APRIL 2002

When profits improve and budgets loosen up, here's where IT will focus spending:



Note: 200 respondents; multiple responses accepted

SOURCE: GIGA INFORMATION GROUP INC., CAMBRIDGE, MASS.; SOUNDVIEW TECHNOLOGY GROUP INC., OLD GREENWICH, CONN., JUNE 2001

“Did you hear what the CEO said yesterday?”

"He said we should _

Get your infrastructure ready for anything. You've got relentless hackers, massive usage spikes, 24/7/365 demands, big CEO requests, etc., etc., etc. What is going on here? This, of course, is today's unpredictable business environment. In this environment, where _____ can happen at any moment, you need to keep your infrastructure prepared for anything and everything. And that is exactly what the Microsoft® platform is designed to help you do. Here's how:

Security

The Microsoft platform helps provide the secure infrastructure that enables confident computing in a dynamic Internet-enabled environment.

The Microsoft platform enables high levels of security through built-in encryption, authentication, and access control that can be centrally managed and integrated. In addition, it helps protect sensitive data and applications by securing your network perimeter against attacks and unauthorized use.

Manageability

The Microsoft platform allows you to build and maintain a technology infrastructure that is reliable, cost-effective, and easily modified to meet changing business needs.

Microsoft Systems Management Server 2.0 provides comprehensive hardware and software inventory, enterprise software distribution, remote control, and software metering for Microsoft Windows®-based desktops and servers. Microsoft Active Directory® service and Group Policy features in the Windows 2000 Server family simplify management of users and devices. Microsoft Operations Manager 2000 provides enterprise-class event and performance management. And Microsoft Application Center 2000 makes the management of Web server farms as simple as managing a single server.

*This level of availability is dependent on many factors outside of the operating system, including other hardware and software technologies, mission-critical operational processes, and professional services. †Source: Transaction Processing Performance Council, May 2002. © 2002 Microsoft Corporation. All rights reserved. Microsoft, Active Directory, BizTalk, and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. The names of actual companies and products mentioned herein may be the trademarks of their respective owners.

Interopereblility

The standerds-besed technologies in the Microsoft platform work with your existing infrestructure, support future technology investments, and leverege your investment in the skill sets of your current steff.

The Microsoft platform can enable communication with other operating systems, including UNIX-, NetWare- and IBM-based systems, using common protocols. It can also access file shares and printers on other platforms, integrate new applications with existing data sources, and reduce the burden of administering multiple systems. And XML enabled Microsoft BizTalk Server 2002 even allows you to orchestrate business processes and applications across organizational boundaries.

Rellability

With the right investments in people, processes, and the technology of the Microsoft platform, you can achieve the highest levels of rellebility you need to run your business.

The Windows 2000 Server family delivers up to 4-node clustering and 32-node load balancing to support mission-critical applications and solutions. Features like these, along with established best practices and support from Microsoft's industry partners (including fault-tolerant systems vendors), allow customers to build solutions that provide up to 99.999 service ava lability.*

Scalability

The Microsoft platform sceles to handle your most demanding workloeds.

The Microsoft platform gives you the choice of thinking bigger, smaller, up, or out, with the lowest price-to-performance ratio of any competitive platform.† You can deploy Microsoft SQL Server™ 2000 on Windows 2000 Datacenter Server for heavy-duty ERP and transaction processing, and scale up to support terabytes of data and millions of transactions. Or scale out with Application Center 2000 by adding clusters of Windows 2000–based servers running distributed applications. Either way, the scalability you need is there.

For more information on how to prepare your infrastructure for _____, _____, and _____, visit **microsoft.com/enterprise Software for the Agile Business.**

Microsoft

"640K ought to be enough for anybody."

1984

"Portal, schmortal."

2002

(Pooh-pooh it now, while you still can.)

CleverPath™ Portal and Business Intelligence Solutions

Every major innovation in technology has initially been met with more than a little resistance. Portal technology is no different. But today's curiosity is well on its way to becoming a necessity. Why? Because CleverPath Portal and Business Intelligence solutions bring your applications, business processes, and data together in one location, to be shared and used like never before. That means the right information can go straight to the right people at the right time—all in a personalized way. Don't spend another day without tapping into the true value of your enterprise. Go to ca.com/cleverpath/portal and find out more now.

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COMPUTING WITH MOLECULES

Researchers are developing molecule-size memory and logic switches for the postsilicon age, due to arrive in about a decade, they say. **PAGE 36**

WEB SERVICES OPEN PORTAL DOORS

Emerging industry standards are becoming the key to application integration through Web portals. **PAGE 28**

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5 Microsoft acquiesces to users who want Java in Windows but vows to remove it again after 2003.

6 Three major trucking companies decide that the promised high bandwidth of 3G wireless networks isn't worth waiting for.

8 Sun expands its horizons beyond Solaris by making its application server available for multiple operating systems — including Windows.

10 Delta Air Lines reschedules the SAP portion of a supply chain software rollout that was postponed following the Sept. 11 attacks.

BREAKING NEWS

For breaking news, updated twice daily, visit

QuickLink: a1510
www.computerworld.com

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39 Emerging Technologies: The first enhanced wireless data network services are faster than 2G services, but reliability, coverage and pricing are still in question

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52 More companies are training technology managers in financial analysis as a means of getting a more accurate picture of the true costs and benefits of IT projects.

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22 Patricia Keefe says CIOs are indeed doing more with less as we reach 2002's halfway point. But they should also work with finance people to find creative ways to cut costs and deploy new technologies.

22 Pimm Fox writes about the benefits IT can realize on Web systems by combining single sign-on technology with behind-the-scenes authorization to databases, applications and computer systems.

23 Michael Gartenberg says there's nothing wrong with getting tougher about information security, as long as you're not so tough with your users.

64 Frank Hayes, meanwhile, says today's emphasis on security is very reminiscent of Y2k — and just as important to corporate survival.

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ONLINE

TECH FEATS AND FLOPS

What were the best high-tech innovations of the past 35 years? The worst? Cast your vote for technology raves and raspberries.
QuickLink: a2210

HIGH-SPEED WIRELESS

What's it like to have next-generation wireless Internet access? An early user of Verizon's new service says he's more productive.
QuickLink: 30329

SMART CARDS, SMART CHOICE?

After a Bush administration official touted the "tremendous potential" of smart cards to boost information security, members of *Computerworld*'s online communities debate whether smart cards are, in fact, a smart choice.
QuickLink: a2220

WHAT'S A QUICKLINK?

On some pages in this issue you'll see a QuickLink code pointing to additional, related content on our Web site. Just enter that code into our QuickLink box online, which you'll see at the top of each page on our site.

Use QuickLinks to see related stories, discussion forums, research links, archives and more.

AT DEADLINE

HP Sets Furlough For IT Contractors

Hewlett-Packard Co. said it plans to furlough about 4,000 IT contract workers for three weeks, starting today. The company added that it may cancel outright the contracts of workers who do internal IT support work. A small number of essential contractors will continue working during the furlough, said HP, which hopes to save up to $20 million in labor costs.

Hosting Firm Digex Names New CEO

Digex Inc., a Web hosting firm in Laurel, Md., that's majority-owned by WorldCom Inc., named George Kerns as its president and CEO. Kerns had been senior vice president of operations at Digex, which lost $51.4 million in the first quarter on revenue of $51.6 million. The company is one of many struggling hosting vendors (see story, page 8).

BMC Readies Portal For Management Tool

Houston-based BMC Software Inc. today plans to introduce a Web-based portal user interface for its Patrol Enterprise Manager software. The management console currently runs only as a Windows NT server application, but BMC said the new portal will let IT managers access systems and application performance data through a Web browser.

Tibco Software Hit by Big Loss in Fiscal Q2

Tibco Software Inc. in Palo Alto, Calif., reported a loss of $56 million on revenue of $64.1 million for its second quarter ended May 31. The integration software vendor also said it expects a similar revenue total in the third quarter. "The environment for selling enterprise software continues to be challenging," said Tibco CEO Vivek Ranadive.

HP's OpenView Gets a New Look

Additions, enhancements aimed at providing expanded service-level view

BY JAIKUMAR VIJAYAN

HEWLETT-Packard Co. plans to release new products in its OpenView suite that give companies a more service-oriented view of their infrastructures.

The company this week is scheduled to launch six products that add new capabilities to the OpenView suite in several areas while enhancing existing functions in several others. The new offerings include the following:

- HP OpenView Transaction Analyzer, which will allow companies to pinpoint bottlenecks that affect transaction performance in a very detailed fashion. Using it, companies will be able to look at each technology component that affects the overall performance of a transaction.
- HP OpenView Data Protector, a newly renamed and upgraded version of HP's existing OmniBack product for backing up and restoring data. With this version, HP has added a new data-mirroring capability that will let users do real-time backup of data in addition to traditional tape-based backup.
- HP OpenView Smart Plug-In for Web Methods, which is a new feature that was designed to give companies a better overall view of the technology powering a specific business application. The goal is to help companies identify problem areas relating to their infrastructures and to help them optimize the performance of existing technology.

MORE TO COME

In addition to the OpenView product announcement, HP this week is expected to announce the following:

- **New Web-based support services for customers and partners.**
- **Developer tool kits for application integration software.**

A newly enhanced version of OpeoView Service Desk lets users automate the process of measuring actual service levels achieved against service-level definitions.

Sucb capabilities build on HP's approacb of enabling service-driven managemeot as opposed to management of technology assets, said Bill Emmet, a manager with HP's OpenView group.

Monitoring Service Levels

"Business-oriented users tend to view things more in a service-oriented fashion rather than from a device-by-device standpoint," said Bill Johnson, a vice president at Logical Networks Inc., a systems integrator based in Bloomfield Hills, Mich.

Logical is using OpenView to, among other things, monitor tbe service-level agreements it has with its clients.

Instead of merely identifying technology problems within an infrastructure, OpeoView also provides a view of whether and how these problems are affecting service delivery, Johnson said.

"What users want to know is not whether a router or a switch is down, but whether an application is running optimally, or whether a problem is affecting only certain divisions within an organization or the whole company," he said.

Though HP is one of the vendors that is most actively pushing the idea of service-led managemeot, other companies, such as Computer Associates International Inc. and IBM, have also been pushing the model with their management suites, according to Stephen Elliot, an analyst at Hurwitz Group Inc. in Framingham, Mass.

"They are all talking about monitoring, managing and automating specific tasks so that service-oriented IT shops" can manage their infrastructures more efficiently, he said.

PRODUCT DIRECTION

For more on Hewlett-Packard's product road map, visit our Web site.

QuickLink: a1050 computerworld.com

HP Expands Fault-Tolerant Server Line

BY JAIKUMAR VIJAYAN

Hewlett-Packard Co. last week expanded its recently acquired line of fault-tolerant computers with new hardware models and enhanced application integration software capabilities.

The company's new HP NonStop S86000 is its highest-end fault-tolerant server and features the latest MIPS 14000 microprocessor technology, plus nearly four times the memory capacity, double the cache size and up to 25% better I/O performance than its predecessor, the S74000.

Together the enhancements deliver nearly double the application-level performance of previous models in this line used by Nasdaq, said Rich Lind, senior vice president of computer operations at Nasdaq Stock Market Inc. in Washington.

Nasdaq has purchased two of the systems — one as primary server and the other as a backup server — to power its new SuperMontage electronic trading application.

"It virtually doubled our performance instantly," Lind said.

HP also introduced the new midrange S7600 NonStop server and an entry-level server called the S76. Both boxes are expected to become available in the third quarter.

Meanwhile, on the software front, HP said that users of its NonStop servers will now be able to use software from Palo Alto, Calif.-based Tibco Software Inc. and Monrovia, Calif.-based SeeBeyond Technology Corp. to better integrate mixed application workloads running on the platform. HP signed up both vendors as strategic business partners last week.

HP's NonStop S86000

HP is also making available a suite of Java-based software for its NonStop servers, including a Java 2 Enterprise Editioo-based enterprise applicatioo server, a Java messaging service called NonStop JMS, and Java Database Connectivity.

HP acquired the NonStop fault-tolerant server technology through its recent purchase of Compaq Computer Corp. The systems had been called Himalaya servers, but HP renamed them after the merger.

Last week's announcement backs up HP's stated intention of continuing with the premerger road maps of both companies as much as possible, said Richard Partridge, an analyst at D.H. Brown Associates Inc. in Port Chester, N.Y.

Microsoft to Include Java In Windows XP Update

But support will stop at the end of 2003

BY CAROL SLIWA

Reversing the hard-line stance it has taken since last year, Microsoft Corp. last week disclosed that a forthcoming update to its Windows XP desktop operating system will include the software code necessary to run Java applications.

The first Service Pack for Windows XP, due this summer, will ship with Microsoft's Java virtual machine (JVM) as part of the default installation, according to a written statement issued by Jim Cullinan, Microsoft's lead product manager for Windows. But Cullinan said the decision doesn't change Microsoft's long-term plan to remove Java support from its Windows operating system.

"They're still not Java folks, but they are trying to help out some customers short term," said David Smith, an analyst at Stamford, Conn.-based Gartner Inc.

Smith said the decision to include Java support in the Windows XP Service Pack won't have a huge effect on corporate developers, who usually make arrangements to ensure that their users have the JVMs necessary to run their applications. He called the Microsoft decision "largely symbolic."

Settlement Violation

Cullinan said last week's decision came in response to a lawsuit that Sun Microsystems Inc. filed against Microsoft in March [QuickLink: 27907]. Microsoft currently gives customers the option of downloading its JVM "on demand" when they encounter a Java applet. But Sun claimed that the installation-on-demand option violated a settlement agreement that the two vendors had reached last year in an earlier legal dispute, according to Microsoft.

"We wanted to take this issue off the table in the new lawsuit, while minimizing any potential impact on our customers," Cullinan said.

Sun, in a statement, said that Microsoft's decision "is good news for both consumers and software developers who have come to depend on Sun's Java platform. ... It is unfortunate, though, that Microsoft insists on using an outdated and incompatible Java runtime instead of a current and compatible one."

Sun also criticized Microsoft's plan to remove Java runtime code from the operating system at the end of next year. That move is designed to force Windows users and developers who prefer Java to abandon the technology, Sun claimed.

> They're still not Java folks, but they are trying to help out some customers short term.
>
> DAVID SMITH, ANALYST, GARTNER INC.

But Cullinan said the settlement agreement with Sun prevents Microsoft from making any changes, including security fixes, to its Java implementation after Jan. 1, 2004. "We will not put our customers or Windows at risk, so you can anticipate that there will be no Java in Windows from that point forward," he said.

Last July, Microsoft first disclosed that Windows XP wouldn't ship with the JVM code needed to run Java applications [QuickLink: a2200]. Instead, Microsoft offered a downloadable version of its own JVM, which is based on Version 1.1.4 of Sun's Java technology. That isn't the most current release of Java.

Thomas Murphy, an analyst at Meta Group Inc. in Stamford, Conn., said Microsoft has been "beaten up" since its earlier decision to remove Java support and may be making coocessions to address that criticism as well as the ongoing litigation with Sun.

Murphy said the support for Java in Windows XP may help some corporate IT shops that push Java applet-based interfaces to their customers via the Internet. But few companies do that now, he said, so the decision will have limited impact.

"Most corporations are pushing thin-client interfaces rather than applets, because thin clients now have much richer capabilities than they did in the past," Murphy said.

States Alter Remedy List at Microsoft Trial

Disclosure of technical info top priority

BY PATRICK THIBODEAU
WASHINGTON

It's now up to the judge in the Microsoft Corp. antitrust case to decide what remedy to impose on the software giant to settle the finding that it illegally maintained its operating system monopoly.

Closing arguments ended last week, with a surprising reshuffling of the remedy priorities sought by the states that have refused to accept the Bush administration's settlement deal with Microsoft, which is also before the judge.

The states, picking up a hint from U.S. District Court Judge Colleen Kollar-Kotelly that she may accept some of their tougher remedy terms, reordered their list in a way that may make it easier for the judge to accept. The revised list focuses on remedies demanding business practices changes and not on changes to the operating system itself.

"Priority No. 1 is really disclosure," states attorney Stephen Kuney told the judge.

Disclosure, a requirement that Microsoft fully reveal Windows technical information, replaced the prior top demand that it produce a modular version of Windows.

Second on the priority list now: remedy provisions that give PC makers flexibility in systems configuration while barring any retaliation by Microsoft. "This is absolutely dead-bang central," said Kuney.

These changes came after Kollar-Kotelly issued an order telling each side tn produce a remedy priority list.

Microsoft's job was to come up with a list of the "least onerous" of the states' remedies. But Microsoft attorney John Warden didn't want to give the judge the notion that there was anything acceptable about the proposal from the states.

Warden called the states' plan "fundamentally flawed in numerous respects."

One legal expert called Microsoft's approacb risky. "Microsoft was deathly afraid that if they said anything" about the least onerous remedy, "that would be a clear signal for her to do it," said Bob Lande, an antitrust professor at the University of Baltimore School of Law. But if the judge is planning to order tougher remedies, "it would have been to Microsoft'a advantage to prioritize them."

CASE HISTORY

For complete coverage of the Microsoft antitrust trial, visit:

QuickLink: s1100
computerworld.com

Both the federal settlement and the states' proposal include discloaure provisions. But the states' plan would give third parties access to Windows source code.

Whether a more stringent disclosure provision makes a difference is a question. Would source-code access matter? "Not in a world that is moving toward universal acceptance of Web services," said analyst Dwight Davis at Summit Strategies Inc. in Boston, referring to functions and applications made available through standards that are independent of operating systems.

The modular Windows requirement could help users by giving them some custom configuration options. But PC makers strive to offer more, not less, on their systems. "I don't think, ultimately, it will have a dramatic impact on end users," Davis said.

In closing arguments, the states put a good deal of effort into telling the judge that any remedy must protect markets not considered in the 1998 Microsoft trial, such as handhelds and network operating systems.

But Microsoft insisted that the proposal went too far. "The remedy reconstructs Microsoft's business; it's a form of industrial engineering," said Warden, who called the states' plan punitive and argued that it amounts to illegal confiscation of Microsoft'a property.

Freight Carriers Won't Wait for 3G Wireless

With customers demanding service now, they opt for slower existing technologies

BY BOB BREWIN

ABF Freight Systems Inc., Airborne Express and Consolidated Freightways Corp. have all decided that they don't really need the third-generation (3G) high-speed mobile data hyped by the cellular industry. The companies are deploying current-generation wireless systems to a total of almost 30,000 mobile workers.

These companies can't afford to wait for cellular carriers to turn on their multibillion-dollar nationwide high-speed networks, said Marty Larson, senior vice president of sales at Vancouver, Wash.-based Consolidated.

Customers are used to obtaining real-time visibility of their shipments from United Parcel Service Inc. and FedEx Corp. and expect the same from their truckers, he added.

To meet that demand, Consolidated has started deploying 6,000 Web browser-equipped cell phones to its city pickup and delivery drivers running on the nationwide cellular network operated by Nextel Communications Inc. in Reston, Va.

Although the Nextel network operates at data rates far slower than those promised for 3G networks — 20K to 40K bit/sec. vs. 144K bit/sec. for 3G — Larson said it's more than sufficient to transmit the limited amount of data Consolidated needs to provide real-time tracking information.

Nextel charges about $40 a month per phone for airtime but gives volume discounts to heavy users such as Consolidated. Larson said he expects a 24-month payback from the Nextel system, but he declined to provide specific financial details. Larson said he evaluated 3G systems but opted for the Nextel service because it was available immediately and is inexpensive.

Airborne Express, a unit of Seattle-based Airborne Inc., which competes head-on with Memphis-based FedEx and Atlanta-based UPS, knew it had to deploy a wireless system that offered the same shipment visibility as the industry leaders. But it was bound by a corporate culture that embraced technology slowly and demanded "extremely cost-effective" systems, said Dave Billings, Airborne's CIO.

Earlier this month, Airborne completed a field test of 3,000 handheld data terminals with bar-code scanners from Motorola Inc. in Schaumburg, Ill. The devices operate oo either the Nextel oetwork or the Mobitex packet data network operated by Cingular Wireless, which offers data speeds of just 8K bit/sec.

Airborne has had a strong return on investment with its mobile data system, Billings said, but he declined to provide details. Airborne expects to use the system "for at least the next five years," he said.

ABF Freight Systems, a subsidiary of Fort Smith, Ark.-based Arkansas Best Corp., plans to deploy 3,500 Nextel Web-browser phones to drivers and dock and yard workers, said Wes Kemp, the Roscoe, Ill.-based firm's vice president for terminal operations.

Kemp said ABF doesn't need high-speed data rates because a dockworker can record the routing of a shipment with two keystrokes. He added that the outbound shipment application paid for itself in three weeks.

The good-to-excellent coverage offered in their primary metropolitan delivery areas nationwide was another reason the companies said they opted for the current technology. It will take a year or more to achieve the same coverage levels with 3G services, according to Weston Henderek, an analyst at ARS Inc. in La Jolla, Calif. ❯

MORE THIS ISSUE

To learn more about the hurdles 3G wireless users face, see page 39.

Wireless Deployments

ABF FREIGHT SYSTEMS
- 3,500 Web browser phones
- Supports dock, yard and city delivery operations
- 20K to 40K bit/sec. data over Nextel cellular network

AIRBORNE EXPRESS
- 20,000 Motorola data terminals equipped with bar-code scanners
- Supports pickup and delivery
- Nextel network and 8K bit/sec. Cingular Mobitex network

CONSOLIDATED FREIGHTWAYS
- 6,000 Web browser phones
- Supports pickup and delivery
- Nextel network
- 24-month payback

IBM Joins Hunt for Rogue Wireless LAN Access Points

BY BOB BREWIN

IBM has announced it will enter the battle against unauthorized wireless LAN access points (AP) with a monitoring tool that the company says can automatically detect the use of "rogue" APs on large-scale enterprise networks.

Unauthorized wireless LAN APs are usually installed without the knowledge of companies' IT departments by employees seeking inexpensive mobility within an office. Analysts estimate that thousands of such devices, which cost less than $200, are installed each month, most of them with no security measures in place.

Worse Before Better

Scott Womer, manager of systems engineering at Atmos Energy Corp. in Dallas, said he believes the problem of rogue APs will get worse before it gets better as prices for APs come down.

Chris Kozup, an analyst at Stamford, Conn.-based Meta Group Inc., warned that enterprises also need to check their networks for malicious rogue APs, which could easily be jacked into wired networks by outsiders seeking business or government intelligence.

The IBM Distributed Wireless Security Auditor, introduced last week by the company's research division, uses authorized wireless clients as sensors to detect unauthorized APs, said Dave Safford, manager of global security analysis at IBM. Each client runs a small Linux program just 100KB in size that detects APs and reports their IP and Media Access Control (MAC) addresses to a central database.

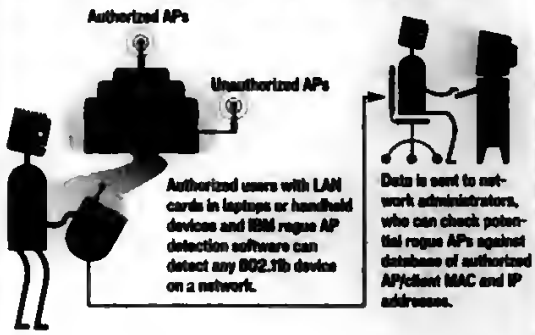
The database contains the MAC and IP addresses of all authorized APs, which makes it easy to automatically determine whether a device is a rogue one. In addition, the IBM package includes triangulation software, so network managers can pinpoint the physical location of unauthorized APs.

Distributed Wireless Security Auditor might be useful in a campus environment, Womer said. But he doubted that it could help him centrally monitor wireless devices hooked into a network that is "spread across 13 states."

Wireless Security Auditor could scale globally, allowing central monitoring of wireless networks for companies with widely dispersed offices or plants, said Safford.

Safford expects IBM to bring the wireless auditor to market in a matter of months. The company is chasing two start-ups in the wireless LAN security field: AirDefense Inc. in Alpharetta, Ga., and AirMagnet Inc. in Sunnyvale, Calif., which have already introduced competing tools. ❯

IBM Distributed Wireless Security Monitor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Unauthorized APs
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THE ENTERPRISE NEWSWEEKLY

"Oracle9*i* JDeveloper: An alternative to .NET."

PC MAGAZINE

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BRIEFS

Sun Upgrades Server, Adds Low-End System

Sun Microsystems Inc. expanded its Unix server line, introducing a new low-end system and upgrading its high-end Sun Fire V880 with faster CPUs. The low-end V480, which was code-named Cherrystone, supports up to four of Sun's 900-MHz UltraSPARC III chips and starts at $22,995 with two processors. The eight-way V880 server is also now available with the 900-MHz chip, Sun said.

Visa Names CIO for Its Global Operations

Visa International Service Association named Inder Singh its global CIO, the first time the Foster City, Calif.-based credit card company has put an executive in charge of IT at all of its operating units. Singh, who helped define the CIO's duties before being hired for the job, said retooling systems to support the company's VisaNet transaction infrastructure will be a top priority.

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Sun Moves Application Server Beyond Solaris

Basic software version to be free download

BY JAMES NICCOLAI
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The plan for Version 7 of the company's Sun ONE Application Server to support Windows, Red Hat Linux, HP-UX and AIX came just two weeks after Sun said it would make its portal server software available on operating systems other than Solaris next year [QuickLink: 30358].

Sun will offer the new application server in three packages with different functionality levels (see box). The company, which last month said it was bundling a basic application server into Solaris 9 [QuickLink: 30070], will make that version a free download for other operating systems.

Aiming for Market Share

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Patrick Dorsey, group manager of Sun's Web and application server products, said the company expects the new strategy to boost its application server market share, as well as use of its Java technology. Sun also hopes to make money by selling more hardware and services and by persuading users to upgrade to the fee-based versions of its application server, he added.

Dorsey and other Sun officials said IT managers could use the free version of the application server to extend Web-based applications to new parts of their companies. For example, they said, a retailer could deploy the free software at stores to support procurement applications.

But Shawn Willett, an analyst at Current Analysis Inc. in Sterling, Va., said the free Platform Edition will likely be suitable only for basic applications. The software doesn't include the kind of administrative or high-availability features needed for key corporate applications, Willett said.

Sun said the Platform Edition also doesn't include a full Web server. And the software isn't completely cost-free: Technical support services for the Platform Edition are priced at $795 per year per CPU, according to Sun's Web site.

The Platform and Standard editions are due to be released in September on Solaris and Windows, with support for Linux, HP-UX and AIX scheduled to follow by year's end. Sun said the Enterprise Edition will be generally available in the first quarter.

AT A GLANCE

Sun's App Server Trio

PLATFORM EDITION: Includes a Java 2 Enterprise Edition 1.3 server, messaging software, support for Web services technology and a basic HTTP server. Available free of charge

STANDARD EDITION: Adds software for remotely monitoring and administering large-scale corporate applications. Priced at $2,000 per CPU

ENTERPRISE EDITION: Adds clustering technology that finds the root cause of system failures and takes steps to fix the problems. Priced at $10,000 per CPU

Users will be able to upgrade from the free product to the Standard Edition by activating a software key that turns on more functions, Dorsey said.

Niccolai is a reporter for the IDG News Service.

Intel and Loudcloud Plan to Quit Web Hosting Business

BY ASHLEE VANCE AND TODD R. WEISS

Intel Corp. last week announced plans to scrap its 3-year-old Web hosting business, in a continuing a series of consolidation moves by technology vendors that tried to compete in that market.

In fact, Intel wasn't the only company to say last week that it's bowing out of hosting. Loudcloud Inc. in Sunnyvale, Calif., disclosed a deal to sell its hosting operations to Electronic Data Systems Corp. in Plano, Texas, in order to recast itself as purely a software vendor (see box).

Stephen Lane, an analyst at Aberdeen Group Inc. in Boston, said the rush by vendors to get into the hosting market left the field overpopulated when user companies tightened their IT budgets. "When you've got lots of suppliers chasing business, there's going to be consolidation," he said.

Intel launched its Intel Online Services (IOS) hosting unit in 1999 after spending $150 million to build a facility that housed 10,000 servers, three 1.5-megawatt generators and a 5,000-gallon diesel tank to fuel the generators. The company planned to open 12 similar data centers around the world.

But Intel said it will stop signing new hosting contracts and start working with its existing customers to find new hosting firms for them. The company added that IOS will continue to support users until next June to give them time to make the transition.

IOS's services, which include management of Web sites and servers, are used by customers such as Sony Corp., the U.S. Army and American Stock Exchange Inc.

Lynn Teresky, a spokeswoman at the New York-based American Stock Exchange, said its Internet operations shouldn't be affected by Intel's planned withdrawal. Teresky said the exchange will make "other arrangements" before Intel's support ends, although she couldn't say whether it will hire another hosting company or move the services in-house.

Christine Chartier, an Intel spokeswoman, said the decision to shut down IOS is part of a move by the company to refocus on its microprocessor business.

"The bottom line was that future growth and financial projections did not meet Intel's requirements," she said.

Vance is a reporter for the IDG News Service.

Hosts No More

INTEL

- IOS will wind down operations over the next 12 months and try to shift its customers to other firms.
- Intel said it plans to take a $100 million second-quarter charge because of the planned shutdown.

LOUDCLOUD

- Its hosting business, including all customer contracts, will be transferred to EDS by September.
- The company is renaming itself Opsware Inc. and will focus on selling IT automation software.

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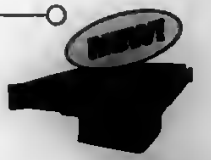

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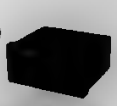

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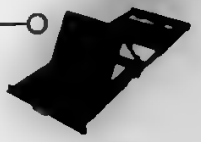

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Delta Revamps Supply Chain Software Plan

Turns on Xelus app, with SAP to follow

BY MARC L. SONOINI

BECAUSE OF the events of Sept. 11, Delta Air Lines Inc. postponed one leg of a major supply chain software rollout involving applications from SAP AG and Xelus Inc. But Delta officials last week said the project will be completed in December and followed by the installation of two add-on applications.

The Atlanta-based airline's maintenance and repair unit initially planned to go live with three of SAP's software modules in April as part of an effort to reduce inventory costs and improve its handling of spare parts [QuickLink: 21997]. Instead, Delta delayed the SAP deployment and went ahead with the installation of a specialized spare-parts management application from Fairport, N.Y.-based Xelus.

However, that required Delta to integrate the Xelus tool with the mainframe-based homegrown materials management system that's eventually supposed to be replaced by SAP's software, said Walter Taylor, managing director of maintenance, repair and overhaul technology at Delta.

Key Investments

The Xelus application, which runs on an HP-UX server and an Oracle database, manages Delta's most expensive aircraft components, such as engines. Taylor said the business case for that part of the project was compelling, although he didn't disclose any details about what Delta is spending or the return on investment it expects.

In addition, Delta stated, "the value of getting users acclimated to the system was well worth the expense" of developing an interface between the Xelus software and the materials management system.

Delta "called a time-out" on the SAP applications in order to hold the line on IT spending, Taylor said. But the airline isn't backing away from the supply chain project and now plans by year's end to flip the switch on SAP's warehouse and materials management applications and its environmental health and safety module, he added. Those applications and Xelus' software will also be connected to Delta's SAP-based finance systems at that time.

Karen Peterson, an analyst at Gartner Inc. in Stamford, Conn., said the Xelus software promised the fastest ROI to Delta — an alluring prospect, given the downturn in the airline industry following the terrorist attacks in the U.S.

Delta is also in the midst of two other parts of the project, Taylor said. One involves replacing its homegrown configuration management system, which keeps records of the most important parts used in planes, with a packaged application that will store data about every part and send alerts to repair workers when components need to be replaced.

Delta is developing a prototype configuration management system with Ottawa-based Mxi Technologies Ltd. but has yet to settle on a vendor for the technology, Taylor said, adding that it is looking to roll out an application as early as next year.

Delta is also working on a system that presents technical documentation about parts in an electronic format that's accessible over the Web, Taylor said. Currently, Delta distributes CD-ROMs to repair workers. That initiative should be finished within two years. ▶

Working on The Chain Gang

COMPLETED

- **July 2000** Delta installed SAP's finance applications and its business-to-business procurement software.
- **April 2002** The airline went live with Xelus' spare-parts management application.

STILL TO COME

- **December 2002** This is the airline's new date for installing SAP applications to be used in managing spare parts for all aircraft and ground equipment.
- **2003–04** Delta plans to add configuration management and technical documentation apps.

Panel: IT Systems Needed to Protect Airports

Recommendations to be tested at 20 locations

BY DAN VERTON

A select group of IT industry executives based in Silicon Valley last week issued a series of recommendations for improving airport security that could lead to a massive IT overhaul of the nation's air transportation system.

The 2002 Silicon Valley Blue Ribbon Task Force on Aviation Security and Technology, formed by Rep. Mike Honda (D-Calif.) and San Jose Mayor Ron Gonzales, issued a 35-page report on June 17 after 100 days of studying how to use existing technology to improve airline and airport security.

The task force's recommendations will be tested at 20 U.S. airports, which are expected to be named by the end of the summer. The suggestions found to be the most successful could be considered for deployment throughout the air transportation industry.

The task force concluded that airport security can be improved through the installation of biometric identification systems to track airport employees and control access to aircraft; the use of Global Positioning System (GPS) devices to monitor vehicles traveling in secure airport areas; cockpit monitoring and access technologies; and enhanced communications networks that would enable airport security personnel to more effectively communicate with one another and law enforcement agencies.

"The report provides a blueprint or a road map by which the Transportation Security Administration, the Department of Transportation and the city of San Jose can bring about a more secure airport environment," said John Thompson, chairman of the task force and CEO of Symantec Corp., an antivirus software vendor in Cupertino, Calif.

The Norman Y. Mineta San Jose International Airport is one of the busiest of its size and offers a perfect model to test such security technologies, said Thompson, adding that the task force deliberately avoided recommending specific products or vendors. "The problems that this airport has to endure are the same kind of problems that every other airport endures," he said.

SECURITY HURDLE
Airports present unique challenges for IT.
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www.computerworld.com

Beatriz Infante, CEO of Aspect Communications Corp. in San Jose and chairwoman of the task force's technology subcommittee, said the report focuses on three areas: validating the identities, location and access levels of airport workers; validating the integrity and security of airport facilities; and upgrading airports' communications infrastructures to enable networking of security monitoring systems.

Task force member Bill Crowell, CEO of security software vendor Cylink Corp. in Santa Clara, Calif., said it's critical for airports to migrate their IT infrastructures to digital technology to solve these problems.

"Today, most of the airports have analog devices, and sometimes a LAN. The cost of adding technology and keeping it fresh will be prohibitive unless the airports go digital," Crowell said, referring to the use of Ethernet network technology and Wi-Fi wireless systems that are protected by virtual private network technologies. "It will also facilitate using new sensors such as biometrics," he added.

"Unless they convert [to digital] technology to facilitate and strengthen [information-sharing and networking], security at airports is hopeless," Crowell said. ▶

Continued from page 1

Microsoft

DEFINITION

New Maintenance Program

What is it? Software Assurance entitles customers to the latest version of a Microsoft software product while the volume licensing agreement is in effect.

When was it introduced? May 2001, when Microsoft announced its Version 6 licensing program.

Who can get it? Companies with Open or Select agreement but to be eligible, companies must be running the most current version of a Microsoft software product. Office 2000, Office XP, Windows 2000 and Windows XP are considered current versions. Note: Software Assurance is built into an Enterprise Agreement.

What does it cost? An annual fee of 25% of the volume licensing agreement's software product cost. The same fee applies to desktop software upgrades.

When does it make sense? Companies that upgrade their desktop software at least every two years and those that are being advised to [illegible]

win-win situation," Ballmer said. "And we've done that many, many, many dozens of times with customers as they have evaluated our new license."

Pacifying Customers

Ballmer himself has gotten involved. He told *Computerworld* that several months ago, a large manufacturing company in Germany complained that the new licensing plan would cause its costs to increase by a percentage it had no intention of paying.

"I said, 'That sounds very reasonable. We're not trying to do that to you, so let's try to find a path,'" Ballmer recounted. "It took us three weeks after I visited. The team had an appropriate arrangement."

Microsoft has worked to pacify users. Concerned over the introduction of Version 6, the company's volume licensing program just over a year ago, Microsoft officials claimed that the new plan would simplify the software maker's complicated licensing scheme, cost software administration and help track and exploit potentially [illegible] subscriptions.

But customers have often complained about the lack of advance information about the new plan and potential cost increases they could face if they failed to make the timely transition to upgrade licensing. Microsoft's Open License program, which [illegible] customers to buy the latest product licenses, is generally [illegible] the future. But they must [illegible] to [illegible]. The license cost [illegible] to [illegible] for desktop software [illegible] the costly [illegible].

For those customers, the Software Assurance plan would offer [illegible] unless they upgrade their desktop software at least every three years. And those who [illegible] software every four years. Microsoft product manager Rebecca Ballmer said. She advises customers to [illegible] business analysis to see if the maintenance program is right for them.

Morin said it's not right for Ann Taylor. "I think they're crazy. We're going to do upgrades every four to five years. What's the business reason behind upgrading more often? There doesn't seem to be a driver here," he said, noting that the retailer's users don't need most of the features that are now in the products.

Jim Press, CIO at Green Mountain Coffee Roasters Inc. in Waterbury, Vt., also plans to buy new licenses several years from now, and the process he had to undertake to make that decision was no picnic, he said. Press said Microsoft provided its licensing scheme but he had to pull together his own set of workbooks to analyze the various new upgrade scenarios.

"I'm sure they could have written a simple program that

Continued on page 16

- **Microsoft's Version 5 volume licensing program ends, and Version 5's Upgrade Advantage option will no longer be available.** Upgrade Advantage entitles a company to all available upgrades and thus allows the company to move to the current version of a product. Upgrade Advantage grandfathers a company to move to Microsoft's new Software Assurance maintenance program at the end of the two-year contract period.

- **Direct enrollment period for Software Assurance ends.** After July 31, a company must purchase new licenses in order to be eligible for Software Assurance. Note: Software Assurance is built into an Enterprise Agreement.

Upgrade options

Open License (five license minimum, two year contract)
Select Agreement (250 desktop minimum, three-year contract)

Old upgrade plan (ends July 31): Upgrade Advantage

PROS: Good choice for companies that plan to move from an old version of Microsoft software to the current version. At the end of the two-year contract term, companies have the option of moving to the new Software Assurance maintenance program.

CONS: Tracking licenses is more difficult; new product version may not be released during the contract period.

New upgrade plan: Software Assurance

PROS: It can potentially reduce costs for companies that plan to upgrade frequently; offers more predictable costs; reduces complexity of software management.

CONS: May push companies to upgrade more frequently than they would like; new product version may not be released during contract period.

Enterprise Agreement (250-desktop minimum, three-year contract, standard product set on all PCs)

PROS: Gives customers deep discount and predictable, locked-in costs; affords access to latest product versions; simplifies license management and software administration.

CONS: Costs more money upfront; requires standard desktop purchase for entire company, reducing flexibility.

Enterprise Agreement Subscription: Allows customers to rent software for a three-year period, in the same way they lease computer hardware. Since they don't own a perpetual license for the software, customers must remove it if they terminate the subscription or they can buy out the licenses.

PROS: Cost is about 15% less than new Enterprise Agreement; can be a tax advantage in some regions; can be written off as an operating expense.

CONS: May push customers to upgrade more frequently than they would like.

Do nothing and buy new software licenses under volume program at later date.

PROS: Lets companies choose when they want to spend money.

CONS: May be more costly than the Software Assurance option in long term; carries the risk that prices will increase.

Acquire Windows, other software as part of PC hardware purchase or through retail channel.

PROS: Lets companies choose when they want to spend money.

CONS: Companies don't get volume licensing benefits, such as potentially lower costs, ease of administration, version downgrade rights and reimaging rights for all products. Companies may have to activate products.

Continued from page 1

Microsoft

win-win situation," Ballmer said. "And we've done that many, many, many dozens of times with customers as they have evaluated our new license."

Pacifying Customers

Ballmer himself has gotten involved. He told *Computerworld* that several months ago, a large manufacturing company in Germany complained that the new licensing plan would cause its costs to increase by a percentage it had no intention of paying.

"I said, 'That sounds very reasonable. We're not trying to do that to you, so let's try to find a path,' " Ballmer recounted. "It took us three weeks after I visited. The team had an appropriate arrangement."

Microsoft has worked to pacify many customers since introducing its Version 6 licensing program just over a year ago. At that time, officials claimed that the new plan would simplify the software maker's complicated licensing scheme, ease software administration and license tracking, and even provide a potentially appealing subscription option.

But customers lashed back, often complaining about the lack of advanced warning about the new plan and potential cost increases they might incur, largely due to the elimination of a popular version upgrade program on Oct. 1.

In response, the software maker twice extended key deadlines and this year is devoting $20 million to a worldwide education project that aims to reach every volume licensing customer.

"We've learned a lot. We'll see," Ballmer said. "There may still be issues that arise that we need to address, either with individual customers or in general."

Jonathan Murray, vice president of global accounts at Microsoft, said the initial introduction of the licensing program had been a "monumental screw-up on a number of levels" and served as "a real wake-up call" to senior management in an area where it lacked an effective feedback loop.

"We didn't actually go out and validate with the right number of customers or the right types of customers ahead of time," Murray said. Since then, Microsoft has undertaken extensive customer surveys. "This is an organization that listens to feedback, acts on it, and it is not afraid to change," he said.

Sour Taste

Customer noise may have died down to some degree, but some users have been left with a sour taste in their mouths. Wolly Morin, CIO at clothing retailer Ann Taylor Inc. in New York, said last week that he still feels Microsoft is "giving us an ultimatum approach" and "kind of putting a gun to our heads."

Several members of his IT staff met with Microsoft, and Morin himself has a meeting scheduled for July. But he said he has no intention of buying into Microsoft's optional Software Assurance program.

Software Assurance, the key new provision in Microsoft's licensing program, entitles customers to receive the latest product versions at potentially lower costs than in the future. But they must pay an annual fee of 29% of the license cost for server software and 25% for desktop software during the contract term.

For most customers, the Software Assurance plan won't make economic sense unless they upgrade their desktop software at least every three and a half years and their server software at least every four years, Microsoft product manager Rebecca LaBrunerie said. She advised customers to do a business analysis to see if the maintenance program is right for them.

Morin said it's not right for Ann Taylor. "I think they're crazy. We're going to do upgrades every four to five years. What's the business reason behind upgrading more often? There doesn't seem to be a driver here," he said, noting that the retailer's users don't need most of the features that are now in the products.

Jim Prevo, CIO at Green Mountain Coffee Roasters Inc. in Waterbury, Vt., also plans to buy new licenses several years from now, and the process he had to undertake to make that decision was no picnic, he said. Prevo said Microsoft provided its licensing scheme, but he had to pull together his own set of workbooks to analyze the various new upgrade scenarios.

"I'm sure they could have written a simple program that

Continued on page 16

THE JULY 31 DEADLINE: WHAT'S HAPPENING?

■ **Microsoft's Version 5 volume licensing program ends, and Version 5's Upgrade Advantage option will no longer be available.** Upgrade Advantage entitles a company to all available upgrades and, thus, allows the company to move to the current version of a product. Upgrade Advantage grandfathers a company to move to Microsoft's new Software Assurance maintenance program at the end of the two-year contract period.

■ **Direct enrollment period for Software Assurance ends.** After July 31, a company must purchase new licenses in order to be eligible for Software Assurance. Note: Software Assurance is built into an Enterprise Agreement.

THE BIG DECISION: Upgrade options

OPTION 1
■ **Open License** (five-license minimum; two-year contract)
■ **Select Agreement** (250-desktop minimum; three-year contract)

A. Old upgrade plan (ends July 31): Upgrade Advantage

PROS: Good choice for companies that plan to move from an old version of Microsoft software to the current version. At the end of the two-year contract term, companies have the option of moving to the new Software Assurance maintenance program.

CONS: Tracking licenses is more difficult; new product version may not be released during the contract period.

B. New upgrade plan: Software Assurance

PROS: It can potentially reduce costs for companies that plan to upgrade frequently; offers more predictable costs; reduces complexity of software management.

CONS: May push companies to upgrade more frequently than they would like; new product version may not be released during contract period.

OPTION 2
■ **Enterprise Agreement** (250-desktop minimum; three-year contract; standard product set on all PCs)

PROS: Gives customers deep discount and predictable, locked-in costs; affords access to latest product versions; simplifies license management and software administration.

CONS: Costs more money upfront; requires standard desktop purchase for entire company, reducing flexibility.

OPTION 3
■ **Enterprise Agreement Subscription:** Allows customers to rent software for a three-year period, in the same way they lease computer hardware. Since they don't own a perpetual license for the software, customers must remove it if they terminate the subscription, or they can buy out the licenses.

PROS: Cost is about 15% less than new Enterprise Agreement; can be a tax advantage in some regions; can be written off as an operating expense.

CONS: May push customers to upgrade more frequently than they would like.

OPTION 4
■ **Do nothing and buy new software licenses under volume program at later date.**

PROS: Lets companies choose when they want to spend money.

CONS: May be more costly than the Software Assurance option in long term; carries the risk that prices will increase.

OPTION 5
■ **Acquire Windows, other software as part of PC hardware purchase or through retail channel.**

PROS: Lets companies choose when they want to spend money.

CONS: Companies don't get volume licensing benefits, such as potentially lower costs, ease of administration, version downgrade rights and reimaging rights for all products. Companies may have to activate products.

a.k.a.

also known as / *abbrev* **a.k.a.**

Whatever you call it, security — a k a encryption, a.k.a business continuity, a k.a. intrusion detection, a.k a firewall availability, a k a IP VPN management — is enough to keep you up at night.

We know security

Fortunately, we've got one of the largest groups of certified Security Specialists in the industry, working to provide user authentication, network intrusion protection and IP VPN management services Our Sprint E|Solution[sm] Centers can provide a 100% dual-site availability SLA and firewall availability 24x7x365 We deliver secure, dedicated, worldwide Internet connections — including DSL, Dial and wireless access In short, Sprint is known industry-wide as a leading provider of comprehensive and flexible security solutions

We know reliability

But we know security without reliability is also known as insecurity. The fact is, we're in the network business for the long haul, and we understand how important it is to you that everything runs smoothly So rest easy knowing that Sprint's long distance network had the fewest FCC-reportable outages of the top three major competitors for the sixth straight year And with the latest innovative technology, we can help you bring IP flexibility to Frame Relay and Frame Relay security to IP Also known as a little peace of mind

Secure solutions when you want them, how you want them — another sign of an intelligent network and the people who make it work (for you)

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Sprint.

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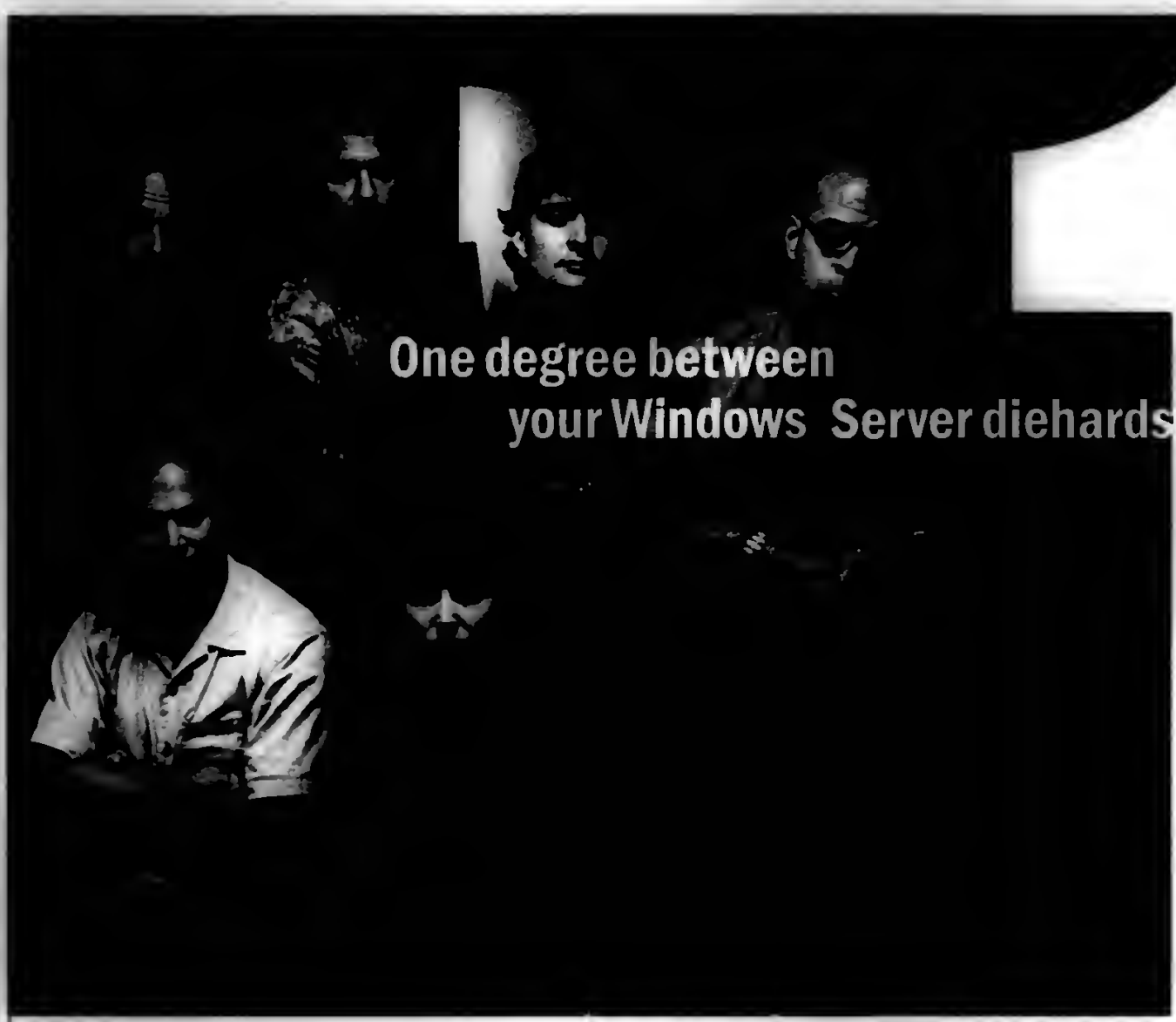

When software quickly eliminates barriers between systems, that's one degree of separation. While you may have one department standardized on one platform, you'll often have another department on a different platform. And since getting everybody to switch to the same platform could cause trouble, it's your job to make everything work together. That's where Microsoft® BizTalk® Server 2002 comes in. BizTalk Server 2002 gives you a library of over 300 adapters for popular applications, technologies, and implementations like EDI using Internet standards like XML and SOAP. In short, it lets you connect all your internal and external systems quickly and cost-efficiently, and nobody gets hurt. That's one degree of separation. That's infrastructure with .NET. Find out how .NET connected software can help you eliminate the barriers between your systems. Go to **microsoft.com/enterprise** Software for the Agile Business.

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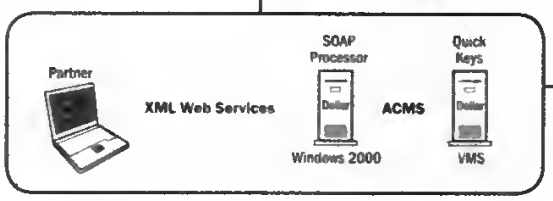
and your UNIX zealots.

Dollar Rent A Car *used BizTalk Server 2002 to create a new XML-based EDI interface in weeks rather than months, and the solution in turn reduced the development time required for connecting to each new business partner by 75 percent. The BizTalk Server implementation also helped the company to significantly reduce transaction costs with its partners.*



Microsoft

Ballmer Discusses Licensing

BY CAROL SLIWA AND MARYFRAN JOHNSON
REDMOND, WASH.

Microsoft Corp. CEO **Steve Ballmer** spoke this month with *Computerworld* about his company's controversial new licensing program. Excerpts follow:

What was the impetus for the licensing changes? The impetus was primarily to simplify licensing, because our customers were real confused about what to buy . . . We didn't boldly go where no man's gone before with the new licensing. It looks more like what you'd see out of Oracle or the other kinds of classic server software vendors.

Under your new Software Assurance maintenance program, you charge 25% of the license fee for server software and 29% for desktop software on an annual basis. Some users complain that those percentages are higher than those of other vendors. Are they set in stone? I can make the percentage go down. We'd just increase the prices of all the products . . . We do not want to charge the same kind of outrageous prices that many people do for enterprise software . . . If people want us to take more of it on the front end and take less on the back end, OK. We'll do it.

Many customers were hurt by the elimination of Microsoft's version upgrade program (VUP). What would you say to them? Either you eliminate the VUP or nothing about the whole assurance scheme makes any sense . . . Here we say, 'Look, if you want to be under assurance, we do the license tracking. We know how many you have.' . . .

I've got plenty of customers who tell me, 'This is going to cost me more money.' And then when I actually look at their purchase history, I can prove to them it's going to cost them less. And I have customers who say that 'It's going to cost me more money,' and I look at their purchase history, and you know what? It is going to cost them somewhat more. But at least it's a rational and predictable framework.

Any chance you'll bring back the VUP? You can't do that. There may be other things we can do. We can't just turn back the clock . . . and go to those customers who have gotten on the new program and say, 'Whoops. All the old options are back in place.' But if there are issues . . . we reserve the right to be smarter every day we come to work, and certainly we're going to work with our customers to address their issues.

The new licensing program removes a lot of upgrade options, and customers do like choices, don't they? No. I don't actually believe customers like choices. What customers like is a good, low price.

The communication foul-up around your new licensing program has been extraordinary. How can that be, if the new program is as easy to understand as you say it is? It is super simple. That's not the problem. What I have learned is most customers don't know what their current situatioo is . . . I know our [old] licensing system was complicated. We made it complicated; not oo purpose. But by adding options and skin grafts and one thing on top of the other, we made it complicated. And you could have a very smart user get very confused and very frustrated and very angry. ◗

DELVING DEEPER
For the full version of this Q&A on licensing with Steve Ballmer, visit our Web site.
QuickLink: 30829
www.computerworld.com

Continued from Page 12

Microsoft

prompted users for key informatioo and gave the best answer with very little effort on their part," he said.

Most of Microsoft's top customers hold Enterprise Agreements and are largely unaffected by the changes. Randy Richardson, CIO at clothing retailer The Talbots Inc. in Hingham, Mass., said he witnessed all the commotion. But, he said, "we're really pretty happy with our relationship with Microsoft."

Navigant International Inc. in Englewood, Colo., waited until two weeks ago to sign its Enterprise Agreement, a step up from the Select Agreement it formerly had.

Navigant CIO Neville Teagarden said that with Microsoft pushing Enterprise Agreements, "you can get certain consideratioo above and beyond signing a Select Agreement."

Teagarden said Microsoft agreed to be more active in helping his company adopt, implement and support products. But he cautioned his peers to do a careful cost analysis to make sure those incentives aren't the drivers for switching to an Enterprise Agreement.

Navigant not only needed to upgrade old software, but also has plans to upgrade more often in the future. Teagarden also noted that the new agreement will help his staff manage licenses at client sites that use Navigant's outsourced corporate travel services. ◗

PRICE COMPARISON
For a breakdown of prices under various upgrade options, visit our Web site.
QuickLink: a2230
www.computerworld.com

Users Leery About Subscription-Based Software Pricing

Software giants Oracle Corp. and Computer Associates International Inc. are among the vendors that offer corporate customers the option of licensing software on a subscription basis.

But many users are reluctant to make the switch to a subscription-based approach, under which they can secure the rights to use software products on a monthly basis. That option contrasts with purchasing software under multiyear licensing agreements and paying annual maintenance fees.

A big part of the reluctance is the uncertainty among corporate customers about how a shift to a subscription-based software licensing model might benefit them.

"I don't think anybody, myself included, has a clear idea of how the numbers would work out" under the subscription pricing model, said Tim Stanley, vice president of IT at Harrah's Entertainment Inc. in Las Vegas. "I'm not a big fan of subscription models," he said. "I'd rather plan, buy and allocate on an annual maintenance standpoint."

Indeed, part of customers' perceptions of subscription-based pricing is that it's more complicated to manage and budget for than the traditional maintenance fee-based approach.

"IT budget cycles are typically done on an annual basis, sometimes quarterly, and it's hard to forecast, [given] an element of unpredictability" with recurrent per-seat charges, said Joel Yaffe, a Giga Information Group analyst in New York.

That unpredictability stems from unplanned changes in the numbers of seats that a company may require.

Richard Peltz, CIO at Marcus & Millichap Real Estate Investment Brokerage Co. in Encino, Calif., said he prefers to stick with the historical approach to buying software – paying 10% to 15% of the annual software license fees for maintenance – for packages such as Symantec Corp.'s Norton AntiVirus software. "Every year we cut a check to Norton, and it's very simple," he said.

Under most subscription-based approaches, corporate IT managers "have to go back on an annual basis and recalculate [their recurrent per-seat charges] time and again, and I don't think that's what anyone wants to do," said Peter John Frazza, chairman of the computer law group at Budd Larner Gross Rosenbaum Greenberg & Sade P.C. in Short Hills, N.J.

Yet officials at CA and Oracle said customers are the ones who are pushing for subscription-based pricing and are steadily shifting over to that approach.

"Subscription-based pricing is something that customers have a growing interest in," said Stephen Richards, executive vice president of global sales at Islandia, N.Y.-based CA. Richards argued that it's "much easier" for IT managers to justify smaller outlays for software on a month-by-month basis "rather than making a large commitment."

Richards said 15% to 20% of licensing transactions were made under the subscription-based pricing approach since the company introduced the option in October 2000. Once they have been able to justify the returns on investment from the use of the software – typically over a four- to eight-month period – about 80% of those customers transition to term-licensing agreements, Richards said.

According to Jacqueline Woods, vice president of global pricing and licensing strategy at Oracle, the subscription pricing model "absolutely reduces costs for the customers because you're more prone to buy software that you need when you need it."

Diane McLean, senior director of customer support at VHA Inc., an Irving, Texas-based hospital cooperative, said she has mixed feelings about subscription-based licensing. "It's probably a wash. It's a good discipline where I don't have to buy things in onesies and twosies, and we don't have to buy a new license every time we buy a new box," said McLean. "But to me, it's more effective to pay for an additional 25 licenses" for an enterprise software package "than to keep track of every single license that's out there."

– *Thomas Hoffman*

MORE ONLINE
All-You-Can-Eat Pricing: Harrah's Entertainment makes a deal with its EAI vendor to get unlimited use of 10 packages for a flat rate.
QuickLink: 30732

Licensing Links: Visit our Web site for links to more *Computerworld* stories on software licensing issues.
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BRIEFS

Oracle Reports Q4 Sales, Profit Declines

Oracle Corp. reported a $656 million profit on revenue of $2.6 billion for its fourth quarter ended May 31, topping sales forecasts but falling well short of its year-earlier $854 million profit and $3.3 billion revenue total. Oracle said it doesn't expect a big improvement in IT spending for at least six months. "The really big deals are few and far between," said CEO Larry Ellison.

Intel Offers Itanium, Xeon Server Modules

Intel Corp. announced plans to offer a set of server "building blocks" for both its Xeon processors and its 64-bit Itanium 2 chip, which is expected to be released next month. The building blocks are aimed at hardware vendors and systems integrators and will include server boards, chassis, RAID controllers and integrated server platforms supporting up to four CPUs.

Peregrine Plans Big Cuts in U.S., Canada

San Diego-based Peregrine Systems Inc. announced plans to cut its North American workforce by nearly one-half within the next few weeks, the latest in a series of restructuring moves triggered by the discovery of accounting errors [QuickLink: 30052]. The asset management software vendor said the layoffs will affect about 1,400 of its 2,900 workers in the U.S. and Canada.

Short Takes

Chelmsford, Mass.-based SYCAMORE NETWORKS INC said it's stopping development of its network transport systems in order to focus on the optical switching market. . . . Rosemont, Ill.-based COMDISCO INC said it expects to emerge from bankruptcy protection in the next two months and then begin selling off the rest of its assets.

Apache Flaw Puts Web Servers at Risk

Disclosure of vulnerability renews debate over how information should be released

BY TODD R. WEISS

THE GROUP that develops the open-source Apache Web server software last week urged users to upgrade to new releases designed to protect systems from a security flaw that could lead to intrusions or denial-of-service attacks.

The discovery of the vulnerability also generated controversy over the way in which it was initially made public, renewing a debate on how quickly security software vendors should release information about holes that they find.

Mark Cox, a member of The Apache Software Foundation and an engineering director at Red Hat Inc. in Raleigh, N.C., said the problems stem from a stack buffer overflow that attackers could exploit to overload Apache-based servers.

In some cases, such as when the older Apache Version 1.3 software is being used on Windows or 64-bit Unix systems, the flaw could also let an intruder run malicious code on a system, Cox said. The Forest Hill, Md.-based Apache Foundation updated both Apache 1.3 and Apache 2.0 to plug the hole (see box).

Apache is by far the most widely used Web server software, according to monthly surveys by Netcraft Ltd. in Bath, England. Netcraft reports that 56% of the 37.6 million Web sites it polled last month were running Apache. Microsoft Corp.'s Internet Information Server was next at 32%.

Last week's controversy arose after Internet Security Systems Inc. (ISS) in Atlanta made the first disclosure about the Apache flaw. ISS said that the vulnerability probably could be exploited only on Windows versions of Apache 1.x, and the security software vendor issued a patch in an effort to correct the problem.

But Cox said the vulnerability has a wider scope than ISS identified. As a result, the company's patch didn't fully address the problem, he said. In addition, ISS posted its alert within two hours of notifying the Apache group about the flaw, he said. That didn't give the foundation enough time to create a fix before issuing its own advisory, said Cox.

Chris Rouland, director of ISS's X-Force research and development group, defended the company's actions, saying it wanted to move quickly to protect Apache users. "We did all the right things," he said.

Rouland added that ISS thinks the wider scope identified by the Apache Foundation actually involves a separate flaw. "It turns out there's another vulnerability we weren't aware of," he said. "I think that's where the confusion lay."

But other security vendors said they were surprised that ISS acted so quickly. Dave Wreski, business director at Guardian Digital Inc. in Upper Saddle River, N.J., said the alert issued by ISS essentially gave potential attackers a head start before a true fix was ready.

Troubleshooting

THE PROBLEM: Apache 1.2, 1.3 and 2.0 include a bug in routines that deal with invalid processing requests using "chunked encoding" techniques.

WHAT USERS SHOULD DO: Web servers should be upgraded to Apache 1.3.26 or 2.0.39, which were released by The Apache Software Foundation.

RELATED LINKS:

- **The foundation's advisory:** *http://httpd.apache.org/info/security_bulletin_20020617.txt*
- **ISS's alert:** *http://bvlive01.iss.net/issEn/delivery/xforce/alertdetail.jsp?oid=20502*

Mainframe Users Turn to IBM's z800 for Cost Savings

200 entry-level systems installed since late March

BY JAIKUMAR VIJAYAN

Early users of IBM's z800 low-end mainframe say the system is letting them boost processing capacity and performance while reducing their costs.

IBM said it has installed about 200 of the eSeries z800 systems, which were introduced in February and shipped a month later [QuickLink: 27438]. One of the most recent users to go live with the z800 was Russell Corp., an apparel maker in Atlanta.

Russell's move from a S/390 mainframe two weeks ago boosted its processing capacity from 260 MIPS to 350 MIPS, Bob Pearson, manager of data processing operations at Russell, said the company was attracted by the z800's processor speed and support for up to 32GB of memory.

In addition, Pearson said Russell could use the z800 as a Linux box if it adopts the open-source operating system because of virtual partitioning technology that IBM ships with its zSeries mainframes.

Basin Electric Power Cooperative in Bismarck, N.D., has replaced an aging 172-MIPS S/390 with a 192-MIPS z800. Under IBM's previous capacity-based software licenses, such a move would have automatically resulted in a steep increase in software costs, said Curtis Kovash, a senior system analyst at Basin Electric.

But Kovash added that IBM's zSeries Entry License Charge — which charges a flat software fee based on a system's model number — has resulted in a much lower monthly bill. "We're basically paying for the box with our software savings," he said, though he didn't disclose specific figures.

The z800 includes many of the system reliability and availability features found in IBM's z900 high-end mainframes but at a much lower price. While z900s often start at more than $1 million, the z800 has a base price of about $375,000.

The z800 also runs a specialized version of the z/OS operating system that IBM licenses for $1,000 to $1,200 per month. That's roughly one-tenth the average cost of the full z/OS version, IBM said.

The z800 is an attractive option for small mainframe users who are looking to expand their capacity and for companies that want to consolidate servers, said Charles King, an analyst at The Sageza Group Inc. in Mountain View, Calif.

z800 Snapshot

BASED ON the same 64-bit technology as IBM's high-end z900 mainframes.

SUPPORTS up to 32GB of memory, with 8GB standard.

INCLUDES a resource director for allocating processor and I/O channel usage.

SUPPORTS Parallel Sysplex clustering, Fibre Channel and redundant processors.

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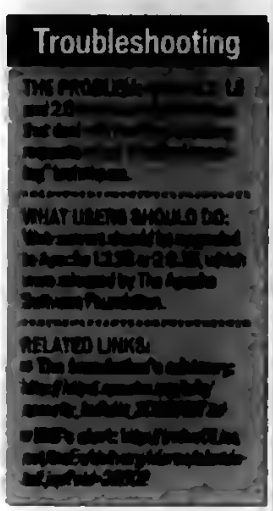

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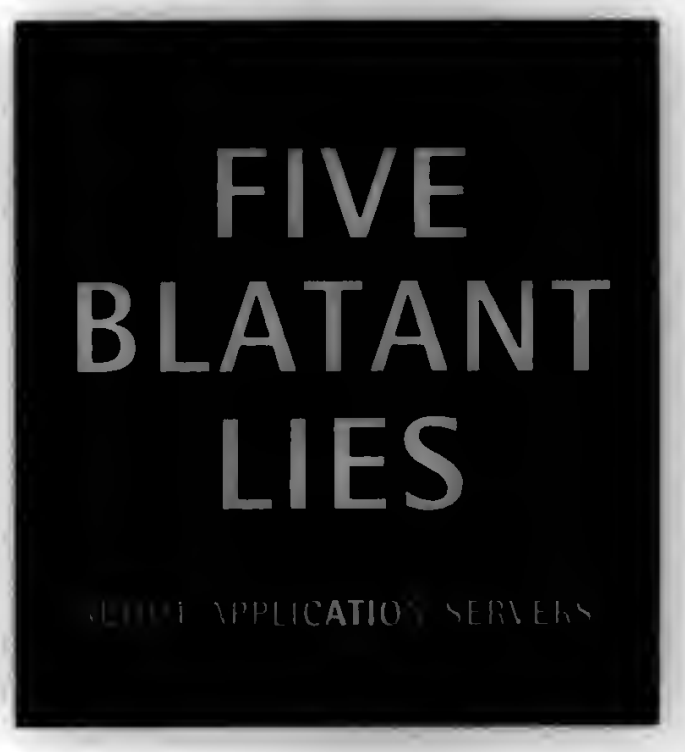
THE STRAIGHT GOODS ON APPLICATION SERVERS.

FIVE BLATANT LIES



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PATRICIA KEEFE

Spending Strategies

THE GOOD NEWS, according to the media, is that the recession is over. Even better, the downturn purportedly managed to miss entire swaths of the U.S. population. I don't know who those lucky people are, but I do know corporate IT departments weren't among them. I also know it's going to take a lot more than economic cheerleading to get you to change your spending plans in the second half of the year.

Patricia Keefe is editorial director at *Computerworld*. You can contact her at patricia_keefe@computerworld.com.

On the surface, that's the bad news. It's bad for IT professionals looking for work, it's bad for companies hoping to move projects off the back burner, it's bad for vendors hoping to prop up sagging sales, and it's bad for Wall Street, which counts mightily on good news from the tech sector to lift the market.

As our cover story (see page 44) makes clear, IT managers are sticking fast to their original plan: Do more with less and less. A Morgan Stanley survey of 225 CIOs in March revealed that 56% of them weren't planning to spend more on technology products and services in 2002. A month later, the investment bank found that only 32% were willing to re-evaluate their budget and spending plans. That's because many of you hunkered down in January with the intent of holding the line on costs. Few have looked up since.

For the most part, CIOs told *Computerworld* that they are leaning heavily on common systems as a way to not only cut labor and support costs, but also to eliminate complexity and the need for specialization. Those same goals are undoubtedly behind the recent movement toward the recentralization of IT.

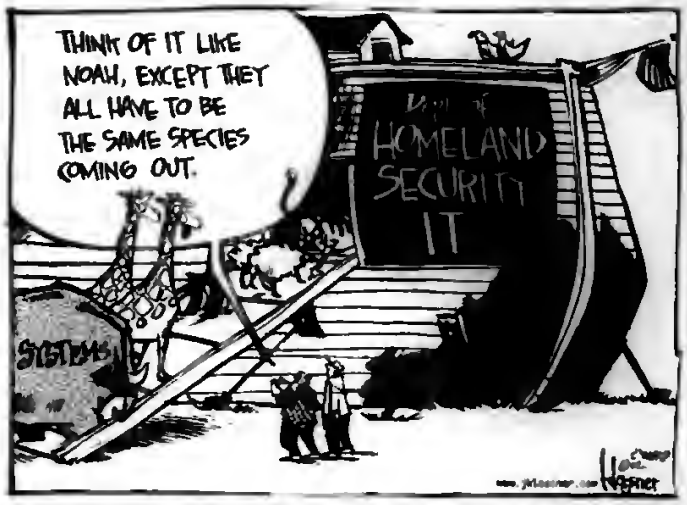
Other economizing approaches include overhauling business processes and application integration, especially where moving to a single system is neither feasible nor cost-effective.

Fiscally, these are all smart moves. But there are additional ways to save money without completely putting the brakes on new technology deployment. There's a good reason why CFOs and CEOs are increasingly sitting in on IT negotiations. They want to make sure their companies negotiate the best possible financial arrangements.

Corporations don't want to have to lay out a huge chunk of money upfront for anything when they could be using that money to accomplish multiple goals. If you need to buy technology or services, you can make vendors compete to finance your business. Leasing is one good example. At IBM Global Financing, strategic customers with "very good credit" can cut deals enabling them to put off payments for months. Payment schedules can be tailored to match anticipated cash flow. Large payments can be made upfront or on the back end. Leasing can also enable customers to dodge the disposal of dated hardware. For example, many companies buy laptops and PCs, which have life spans of two and three years, respectively. Yet IBM maintains that it's cheaper to lease the machines through the life cycle and then upgrade at a savings to a more powerful machine.

There's definitely room to maneuver here. The advantages to partnering with the number-crunchers and thinking outside the box on the financial side of the deal are very real. In doing so, CIOs might be able to finance projects they couldn't afford otherwise — or even to spend money they don't actually have.

Which would be the ultimate in doing more with less. ◗



PIMM FOX

Helping IT With Single Sign-On

WHO ARE YOU, what do you want, and are you approved? These banal questions — if answered — could save IT operations money and foster a better, more personalized user experience.

The solution lies in a combination of single sign-on authentication and widespread, behind-the-scenes authorization to applications, databases and computer systems.

A Meta Group study reveals that, on average, companies with annual revenue of more than $500 million have "sometimes more than 75 applications, databases and systems that require authentication."

Pimm Fox is *Computerworld*'s West Coast bureau chief. Contact him at pimm_fox@computerworld.com.

For access to the accounting system, human resources system or group sales database, a company at least wants to know if you're a current employee. And if the IT system has been built correctly, only authorized people are allowed in, meaning IT gatekeepers have multiplied with new applications.

This accounts for calls to the help desk.

Meta Group analyst Chris Byrnes says 45% of total help desk calls are for password reset assistance. Those users are attempting to identify themselves, but instead cost the company money in lost productivity and strain IT resources. With data from Meta Group, PricewaterhouseCoopers created an ROI calculator to show call center savings from single sign-on.

This calculator should make it easier for CFOs to release money for single sign-on technology that links authorization to applications, databases and systems because the calculator shows the savings.

For more columnists and links to archives of previous columns, go to computerworld.com/columns

In conjunction with the calculator, BMC Software and Oblix have agreed to combine enterprise management tools with an identity-based security system to produce the kind of Web-based technology bolted to back-end applications that make it easy to navigate the "identify, authenticate and authorize" scenario.

But there's another reason single sign-on will be accepted: Personal, role-based information for internal and external customers, suppliers and partners is in demand.

Jean-Pierre Lochman, technical director of Charles Schwab's employee intranet, said next-generation Internet proposals include personalization features to deliver the right information to each user: hence the need to ID, authenticate and authorize.

Lochman said Schwab had a custom application to access a database but decided to switch to Oblix and Lightweight Directory Access Protocol (LDAP) because "we wanted a standard format to integrate single sign-on across all applications."

Information can be synced: The address list from Microsoft's Exchange Directory, the human resources database from PeopleSoft and the facilities database are available via Oblix and the LDAP directory. Schwab cut help desk calls from about 50,000 per day at its peak to about 30 to 40 per day.

That's hardly banal.

MICHAEL GARTENBERG

Being Tough, Gentle With Data Security

RECENTLY, when I visited a client, I was asked to check my laptop at the door. The guard was somewhat surprised at my stated value of my system. "Is this computer really worth a million dollars?" he asked. "No," I replied. The information on it is worth that.

If you're an IT manager, it's time to do something worthy of the value of the information you're protecting.

First, remember that a tough information security policy is a double-edged sword. On one hand, you may have a CEO demanding policies that maximize system security, so as to protect corporate assets and the stock price. On the other hand, you have users who will bypass any procedure that overly complicates their work. In the harsh post-Sept. 11 reality, the emphasis is to err on the side of the former. But that can easily lead to wasted time with policies that don't really work and gaping vulnerabilities if you're rushing to tighten up procedures without considering how they'll affect the end user.

MICHAEL GARTENBERG is research director for the Client Access and Technologies Group at Jupiter Media Metrix Inc. in New York. Contact him at [redacted]

No one wants to work for an organization that resembles something out of Orwell's *1984*. While it's important to secure information and systems, it must be done in a way that maximizes its implementation and won't make users rebel against draconian measures. The more secure your environment, the greater the inconvenience to end users and the greater the likelihood they will find ways to defeat your measures and widen your exposure.

For instance, while 30-character, randomly generated passwords are difficult to break, they're impossible to remember. So let users create passwords that mean something to them and can be applied to the multiple systems many corporate users must access. That way, they'll be less likely to tape them to the bottoms of their laptops (next to their business cards, so thieves can return them after purging the data).

Second, prevention hurts less than cure. Forget things like antivirus software as the sole means of preventive measures, and focus on data backups. Most antivirus software is a waste of time, and the fact that their vendors *depend* on new viruses for their livelihood is disturbing. (Some vendors even pay "bounties" to users who "discover" new viruses or strains.) So instead of hassling users who need to sit through boot and virus scans, implement cohesive data backups, such as a master file for PC users or CDs for laptops. That way, if disaster strikes, users can be back up and running quickly. You can't argue with the savings in time and money.

Finally, wherever data lives, know your risks. Laptops carry great risk and often hold sensitive material that's unsecured and susceptible to theft and industrial espionage. But with increased PDA and smart-phone use, your data and sensitive corporate information are traveling to new places never foreseen. PDA policies should reflect those of laptops, and the anemic protection on PDAs and smart phones should be replaced with robust third-party software that allows data to be encrypted.

Given the value of the data on your systems, what are you doing to protect it? The answer to that question has as much to do with your users' willingness to work with you and comply with policies as it has to do with procedures. So get tougher on security, but be gentle with your end users.

READERS' LETTERS

Lotus Warranted Mention as Replication Leader

YOUR QUICKSTUDY on "Replication" gave a good, high-level, limited explanation [QuickLink: 29839]. However, it mentioned only a "copy" of data to protect against disasters such as Sept. 11. Replication is more than just copying data; it gives you working copies on different platforms from servers to desktop machines and manages the data modifications between all servers and desktops. I have to mention Lotus Notes/Domino because Lotus pioneered replication, and so far it's the only one that has gotten it right. Lotus Notes/Domino has been doing replication since 1992, so you should have had at least a sentence on it.

John Turnbow
President
Data Processing Counseling & Consulting Inc.
Houston

HOW CAN YOU write an article about replication and not even mention the pioneers in the technology, Lotus Notes and Domino? What you call replication is simply backup or copy. Replication is replication only when a transaction conducted on either set of data can be migrated to the other set. None of your examples provides the type of fidelity that has existed in Notes/Domino replication for over 10 years.

Henry W. Newberry
President
Newbs Consulting Inc.
Cincinnati

Covering Microsoft

THANK YOU for your honest coverage of the Microsoft trial [QuickLink: 31100]. It's disappointing how some magazines and editors have completely forgotten that Microsoft has been found guilty of being a monopoly and engaging in anticompetitive business practices. The fact that Microsoft is guilty is not in question at this point; the only issue to decide is how to punish it.

Michael W. Jones
IT consultant
Lumberton, Texas

UCCnet Built for All

I WAS SURPRISED by your article "UCCnet Standard Could Squeeze Small Retail Suppliers" [QuickLink: 30384]. As one of the original developers, I know that UCCnet was built to support both large and small suppliers. For small suppliers, a Web-based GUI allows compliance with no more investment than a PC with a browser. Electronic data interchange (EDI) favors large suppliers, but UCCnet does not. With EDI, every trading partner relationship adds significant, incremental value-added network costs. With UCCnet, each player pays its own revenue-based fees independent of the number of trading partners. This levels the playing field for small suppliers. Instead of database redesign, as your article suggested, we've found that data cleansing is adequate in most cases. For example, we recently synchronized a $75 million supplier with its trading partner in two days. We know it can take less than one day for smaller suppliers. UCCnet reduces collaboration costs to both suppliers and retailers. In many cases, suppliers can achieve these benefits without major IT investment in machine-to-machine integration.

William L. Rosenfeld
Vice president
TR2 Consulting
Boston

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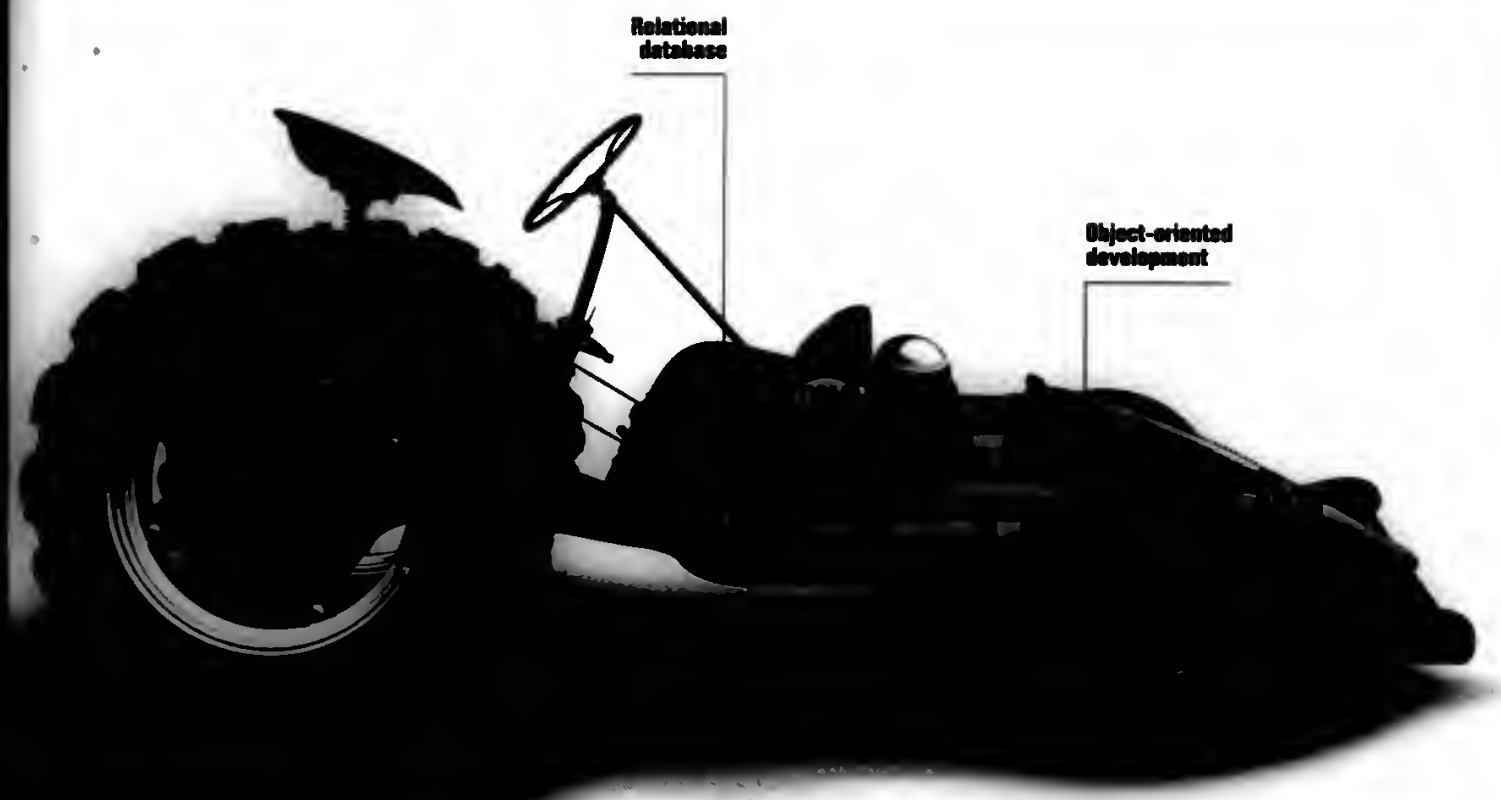

[redacted] isn't a good match for your front-end development, you need a new database. Caché, the high-performance database from InterSystems, is a powerful fusion of today's mainstream technologies: objects and SQL.

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THIS WEEK

OPENING PORTAL DOORS

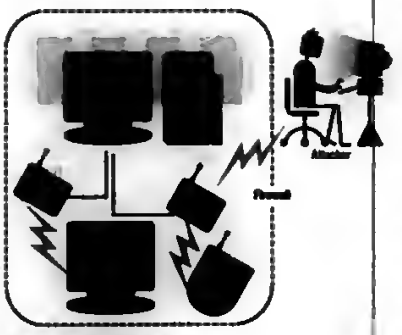
Web services are becoming the new lingua franca of portal development by providing a way to integrate applications for partners and customers. PAGE 28

SIMPLIFICATION IS KEY

KeyCorp CIO Bob Rickert discusses his company's customer relationship management and data mart initiatives and his efforts to streamline the IT infrastructure. PAGE 30

FUTURE WATCH

Scientists are developing molecule-size memory and logic switches for the postsilicon age, which may begin in 10 years. PAGE 30



QUICKSTUDY

Wireless security requires a number of technical safeguards to protect the confidentiality and integrity of e-mail and other data broadcast over radio waves. Learn more in this week's primer. PAGE 38

WIRELESS HORIZONS

Users are finding that the first enhanced wireless data network services are faster than 2G services. But their success will ultimately depend on reliability, coverage and reasonable pricing. PAGE 38

NICHOLAS PETRELEY

Tips for Tough Times

I DON'T MEAN TO BE A WET BLANKET, but as much as I keep hearing we're in an economic recovery, you couldn't prove it by me. The evidence of said recovery certainly hasn't trickled down to me or to anyone I know. Perhaps I need to change my newspaper delivery route to a richer neighborhood.

But in case your company is among those still pinching pennies, I have two counterintuitive suggestions regarding your IT strategy that you can pursue while you continue to wait out the budget drought.

1. Develop a proactive approach to building your IT infrastructure. As odd as this may seem, in times of budgetary crisis, this is precisely what's called for. The question is, do you understand the difference between a reactive and a proactive strategy? Here's a tip: A reactive strategy isn't a strategy at all. It's how we behave when we can't wait to get our hands on the latest technology because someone put the "competitive edge" buzz in our ear. It's not the technology that's dangerous; it's the temptation to forge ahead without careful consideration because we're used to being able to throw money at the problems that inevitably arise.

The solution is simple: If you haven't already done so, put the kibosh on new projects such as going wireless, especially if it looks like the distraction plunges your department into triage whenever someone's notebook needs attention. You can always come back to these pet projects later. By then, you'll be able to step over the bodies of those who did it wrong and approach the technology when it's less risky. Yes, there are some companies that absolutely need bleeding-edge technologies to thrive. Trust me, yours is not one of them. (If it is, my batting average will still be close to 1.000.)

2. Take calculated risks with the resources you free up. Every Next Big Thing is a risk. Right now, the Next Big Things are XML, wireless, storage-area networks and so on. You have a choice. You can convert your gym socks into XML (in which case, I strongly recommend that you employ Simple Object Access Protocol, or SOAP), and take the chance that this effort will pay off in the long run. Or you can follow up on the Last Big Thing you never finished, such as migrating your company's information to a directory based on the Lightweight Directory Access Protocol (LDAP).

Don't get hung up on the example. I chose to focus on LDAP only because of the extravagant promises that surrounded LDAP a few years ago. They sounded a lot like the ones people make about XML and other technologies today. Yet people who jumped on LDAP prematurely didn't get the competitive edge they expected. If LDAP hasn't fulfilled its promises yet, why should XML or wireless technology double your profits overnight?

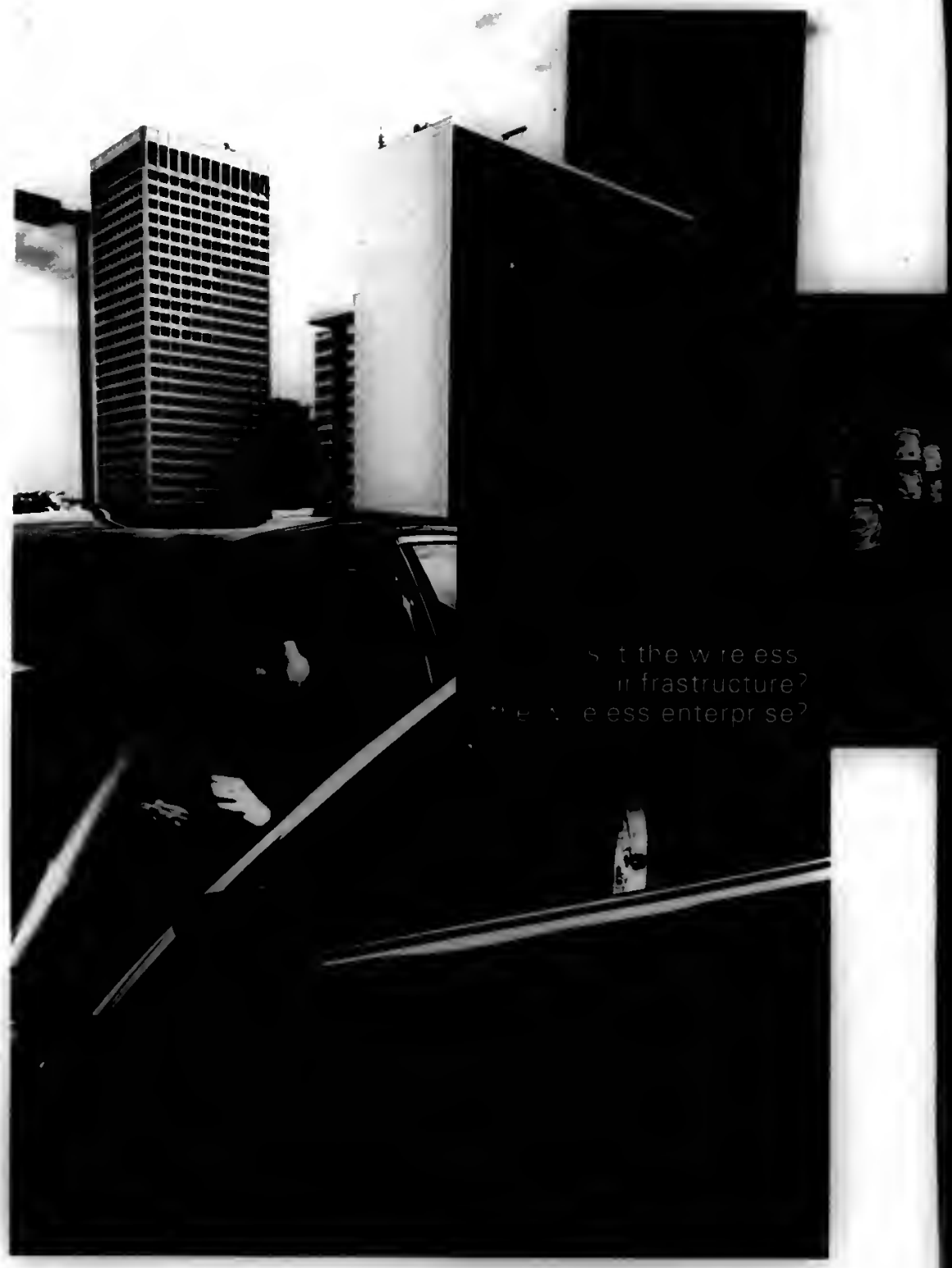
Until LDAP enjoys near-universal adoption, sinking resources into it is still a calculated risk. I was hoping that by now LDAP would have eliminated the difference for me between addressing an e-mail to a colleague at *Computerworld* and addressing one to the CIO at your company. It's not even close. But the reason it's still a risk worth considering is that LDAP may end up marrying public-key infrastructure (PKI), whether or not the chemistry is right between the two. LDAP isn't the ideal PKI directory solution, from a technical perspective, but you can't get a more natural combination, from a user's perspective.

A user should be able to find the person he wants to e-mail, compose the message and then hit Send. The fact that the system grabs the recipient's public key and encrypts the message should be entirely transparent. That's precisely what an LDAP/PKI solution would deliver.

What's the nightmare scenario for taking this risk? You choose to beef up LDAP, and the PKI infrastructure turns out to revolve around an XML-based wireless server. So what? LDAP gateways will abound, and in the meantime you'll have finally implemented the directory services you promised your employees years ago.

The only other suggestion I can think of is to pay me an outrageous fee to help out with your LDAP project. But I believe that about uses up my allotted number of self-serving remarks for the week, so I'll leave it at that.

NICHOLAS PETRELEY is a computer consultant and author in Hayward, Calif. He can be reached at [redacted]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WEB SERVICES OPEN PORTAL DOORS

Industry standards make for easier access and application integration. By Mark Hall

DAVID PLUNKERT

AS A SINGLE, easy-to-use entry point for employees, customers and business partners, portals have proved to be effective, if somewhat limited in their capabilities. Linking back-end applications to a portal, especially one outside the firewall for customers and partners, is tough integration work. However, Web services — some of the hottest technologies on IT's horizon — are beginning to upgrade the humble portal from a simple, personalized GUI view of limited applications to a vital hub for enterprise application integration.

Web services, such as XML wrappers, are standard ways in which one application presents data to another. They promise to ease the burden of application integration by providing a framework of industry standards.

"Web services will have a fundamental impact on how portals are provisioned over the next 24 months," says Hadley Reynolds, research director at The Delphi Group in Boston (see box, next page).

According to Reynolds, Web services resolve a dangerous limitatioo inherent in portal development today: the linking of back-end applications to a portal via proprietary software, variously called portlets, applets or gadgets. Such links are "an Achilles' heel, an accident waiting to happen," he says.

That's because portals built without industry-proven Web services will be mere tactical ventures, at best. At worst, they'll be bottlenecks that impede application integration because of built-in proprietary software hurdles.

Decision Points

The desire to design software around open standards helped drive the American Productivity & Quality Center's (APQC) decision on what tools to adopt in developing its portal. The Houston-based nonprofit, a cofounder of the Malcolm Baldridge Awards, made Web services one of the requirements in its request for proposals for a new portal.

"We did take standards into consideration. We made sure it was an opeo platform that we could build on," explains Farida Hasanali, program manager for knowledge sharing networks at the APQC.

She says it was "a very important factor" that the Enterprise Portal Suite her company purchased from Cambridge, Mass.-based Art Technology Group Inc. (ATG) used a Java implementation that follows the emerging Java Specification Request (JSR) 168 Portlet Specification being developed by the Java Community Process.

Hasanali says ATG's Java-based technology will make it easier for the 500 members of the APQC, whicb includes 450 of the Fortune 1,000 companies and major government agencies, to get better services on the portal, because linkage among services is easier. The use of the Java-based technology means that the data exchanges between applications don't need to be written in proprietary scripts, as is the case with most portals today.

For example, the APQC quickly rolled out personalization services, discussion threads, a calendar and a communities area for members oo the portal, according to Hasanali. Once a developer learns to write XML wrappers or Simple Object Access Protocol (SOAP) interfaces, be can apply that knowledge throughout the programming process, cutting out the time it takes to learn and debug proprietary scripts or portlets.

More important, Hasanali says, "we can leverage the Web services in Java to also build out other areas of the site." A case in point is the APQC's

e-store, where the organization sells its numerous white papers, industry surveys and other reports electronically, which cuts costs significantly, she says.

Since ATG's technology is based on Java, Hasanali's group's current portal project — integrating APQC's conference registration into the Web site — will be a snap, she says, because her staff is already Java-savvy. When the project is complete, the organization will get a better understanding of the demographics of conference-goers in near real time, enabling more targeted marketing efforts to increase conference attendance.

"It's a time and resource saver, as well as a potential moneymaker," Hasanali says.

Bottom Line, Top Line

Cutting costs or making sales is paramount among companies, and portals seem to be a way to do both, according to a recent report by Basex Inc., a New York-based research firm. In "Pure Portal Technology," a survey published last month, Basex analysts revealed that savings can reach up to 3.15% of annual revenues for midsize companies, "due to increased productivity, improved efficiency and lower management costs."

Keith Bearden, chief of information at A-dec Inc., a nearly $200 million privately held maker of dental office furniture in Newberg, Ore., says his company is embarking on a portal that's aimed at helping its many dealers fill orders online. Currently, dealers must navigate through a catalog maze of A-dec's 2 billion options for its custom-made products. Each configuration is different, Bearden says, noting that of the 55,000 dental cabinets that A-dec made last year, no two were alike.

"Less than 20% of the dealer orders come in right the first time," he says. By walking dealers through sets of product choices online and eliminating the keyboard-input mistakes, A-dec can save significant amounts of time and money in not having to continually clarify orders.

Unlike Hasanali, Bearden says he isn't focused on industry standards in the Web services arena, mostly because he thinks they're inevitable. He says that going with a Web services approach to the portal is the right way to build for the future. But he's not biased in favor of Java or Microsoft Corp.'s rival .Net development environment, so he's delivering both kinds of Web services.

"The entrance into the portal is .Net-based," Bearden says. "Once inside the portal, the user will have various options related to applications and/or static information. The OrderNet application uses Microsoft Commerce Server as an engine, but the application is a Baan application and has some heavy Java as part of the application delivering up the product configurations and graphics."

Panacea or Potential?

These examples point to the momentum behind Web services in the portal market. But the technology has its limits.

In a report on Web services, market analysts at Hurwitz Group Inc. in Framingham, Mass., observed that "Web services can help solve some of the integration complexity, but it's not a panacea."

Critics say that as a back-end integration tool for portals, Web services remain point-to-point solutions until software developers across the application spectrum widely adopt Web services into their products. This makes long-term maintenance of the interfaces a management headache, which is compounded by the services' lack of the sophisticated oversight capabilities, such as component management, that are found in other development methodologies.

Garland Wong, chief technology officer at Kinzan Inc., a Carlsbad, Calif., provider of the JSR 168-compatible Adaptive Web Services Suite, agrees. He says it's unlikely that Web services, especially for intercompany purposes, will be showing up in a Universal Description, Discovery and Integration (UDDI) directory on the Web soon.

"We think that's a long way off," he says. Therefore, Kinzan has had to figure out how to get its Web services components to work with products from the dominant portal vendors, such as San Francisco-based Plumtree Software Inc. and San Clemente, Calif.-based Epicentric Inc.

And while Web services for portals bode well for the long term, Fumi Matsumoto, vice president of technology at ATG, says the different "dialects" within XML, the Web services standard for data formats, are a cause for concern for portal developers, especially those dialects designed for use with business partners.

"When you're talking about purchase orders on a real-life B2B exchange, you need to get to the lowest levels, where you're talking about important things," Matsumoto says. "And with XML, there needs to be some agreement, even though you're using the same language."

WEB SERVICES GLOSSARY

WEB SERVICES: A standardized way of integrating Web-based applications using open standards such as XML, SOAP, WSDL and UDDI over an IP backbone.

XML: A specification developed by the World Wide Web Consortium to tag data.

SOAP: Provides a way for applications to communicate with one another over the Internet, independent of platform. SOAP relies on XML to define the format of the information and then adds the necessary HTTP headers to send it.

WEB SERVICES DESCRIPTION LANGUAGE (WSDL): An XML-formatted language used to describe a Web service's capabilities as collections of communication endpoints that can exchange messages. WSDL, developed jointly by Microsoft and IBM, is the language used by UDDI.

UDDI: A Web-based distributed directory that enables businesses to list themselves on the Internet and discover one other, similar to a traditional phone book's yellow and white pages.

DOOR TO MORE

For a list of online resources about portals, visit our Web site.

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Steps Toward Enterprise App Integration

MANY INDUSTRY OBSERVERS agree that Web services underpinning corporate portals could very well replace enterprise application integration (EAI) tools as the best approach to EAI. But some go further and predict that these Web services-based portals will be the foundation for the next generation of business-to-business development.

Hadley Reynolds, research director at The Delphi Group, forecasts a six-phase scenario on how this transformation will happen.

1 Web services programming approaches such as SOAP interfaces will replace proprietary gadgets (or portlets) to link portals to back-end application data and business services. This first step is already under way.

2 Web services will provide an infrastructure for a more pervasive use of content. Syndicated content will be available from premium content suppliers this year on a just-in-time, dynamic basis.

3 Portals will become the delivery vehicle of enterprise application development and integration through Web services. Supplementing and changing the product requirements for traditional EAI tools in the long run will begin this year. EAI will be fundamentally changed by 2004.

4 Web services model for corporate process-oriented applications will make inroads by 2003 and be widely adopted by 2005. These will include internal applications (testing and evaluation, human resources administration and self-service tools) and external applications ("private" extranet interactions and supplier/distributor transactions).

5 Private exchanges will adopt Web services for transaction support and information exchange in portals in '03 and '04.

6 Reynolds says Web services will achieve a level of security and operational integrity to automate business-to-business processes, which have been so idiosyncratic that hard-coding definitions between each company was the only solution. But as Web services evolve, making it easier for companies to describe and publish data in industry-standard ways, the new infrastructure will encourage more pervasive business-to-business commerce online – what Reynolds calls B2BII.

KeyCorp Focuses On Integration, Simplification

With two data centers, more than 1,400 IT employees and an array of disparate systems to manage across its many bank branches, simplification is o central theme connecting KeyCorp's current and planned IT projects. CIO Bob Rickert spoke with Computerworld's **Robert L. Mitchell** *about KeyCorp's technology agenda and the IT challenges facing the Cleveland-based bank.*

What critical technology projects does KeyCorp plan in the next 12 months? Web-based XML messaging is one thing we're trying hard to implement. We have a package type of environment where we buy different things, be it Oracle financials or brokerage trading systems, and the mission is to integrate that stuff.

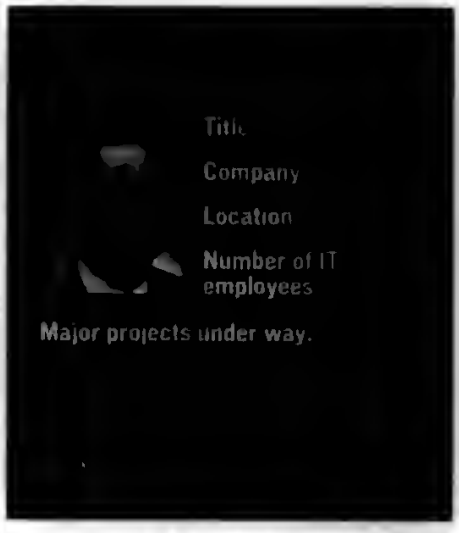
We're really trying hard to improve the reliability of our systems, and the productivity of our development organization and the messaging [project] play to both of those themes. I'd like to simplify out the environment.

What approach are you taking? We formed a group, the [Component Architecture Reuse Team]. It'a an application architecture team, and they're developing the middleware objects to try to link some of our legacy systems. Part of the goal is to simplify the environment by reusing some of the components. We're trying to drive the productivity of new development up as well.

What else is on the IT agenda? We have put a lot of effort into an enterprise data warehouse project. We want to capture not just the immediate transactions our customers are doing with us, but also historical transactions. We want to build very good models based on historical experiences around the risks of default, or what have you, and use them to help price our products.

We are using a data warehouse/data mart architecture. Our whole concept is to have a central master data store [from which] we can then ship the data down to others for specific ad hoc reporting or modeling.

What issues did you have to overcome to build a data warehouse? The limitations we're running into are . . . data quality limitations. As you round up all these disparate databases that have all kinds of different historical roots, just reconciling all this data and getting it clean is where we are most challenged right now. We are really living with the consequences of some of the sins of the past.



Once the data is cleaned up, how will you leverage that? Where we are going with the data warehouse is [to focus] very heavily on customer relationships. We're putting a lot of effort into mapping out a strategy for a [set of] CRM-type systems.

[Today] we have a set of CRM-like systems that are in many ways homegrown. But these systems are not completely integrated. They're point solutions, and we're trying to move off that onto an enterprisewide customer relationship system.

Consolidating all this data and getting a single view of the customer information in the database will form a good foundation [for] our CRM system. We'll be kicking that [CRM] project off in the third or fourth quarter of this year. What we're trying to do oow is make sure that the business units are heavily engaged in this effort.

What other projects are on the front burner? In our information security arena, we are implemeoting [IBM'a] Policy Director . . . which consolidates a lot of the Internet sign-on, user ID, authenticatioo and authorization functions. In the past, we had every app building its own [authentication systems] or using somebody else'a system. This is really a big deal.

[Policy Director] involves a segregated network where the Internet connection will come in [to] some Unix machines that have a hardened OS and Policy Director sitting on top of that. Then there's a set of APIs that Policy Director exposes that the applications can make calls to [in order to] authenticate users. We're hoping it will simplify the whole effort associated with doing customer authorization and authentication.

How is the Policy Director project progressing? We struggled a bit with it, but we seem to be on a good track now. [IBM has] really been heavily dependent on third parties to offer service and support. That didn't work out well. We wound up having to push pretty high into IBM . . . so we could get access to the development folks [in order to] better understand the API set. IBM — and I think they've learned this — probably needed to be more engaged in the project rather than rely on a Deloitte & Touche or a KPMG or whomever . . . especially if [the user] has big, complicated environments.

What common issues do you face in rolling out these projects? As we try and simplify the environment, that's going to require retooling of peoples' skill sets. There are a lot of cultural obstacles to be overcome, and we're working our way through that.

What are your biggest gripes about the state of IT? The vendor community in general is too uncontrolled in the changes and the enhancements that they make. . . . What that presents us with is whether we are ready to migrate to the next generation . . . or whether we should stay with this old platform and then have to deal with service and support on maybe an unsupported platform.

The vendor community needs to move to more of a predictable, scheduled release [of upgrades]. They [should] support a couple of versions back and you can choose which one you want to be running on, so you don't always have to leapfrog to the latest and greatest stuff, which generally is not the most stable.

My second complaint is that many vendors don't focus on service and support of their products the way they should; they're all focused on sales and presales activity. Cisco does a particularly wonderful job of after-sales support. But we've had a fair amount of struggles with a number of other vendors, keeping their attention after they've gotten the check and dropped off the product. If they would more often [make] aure the customer is able to use the product successfully, it would make life easier for us. ▶

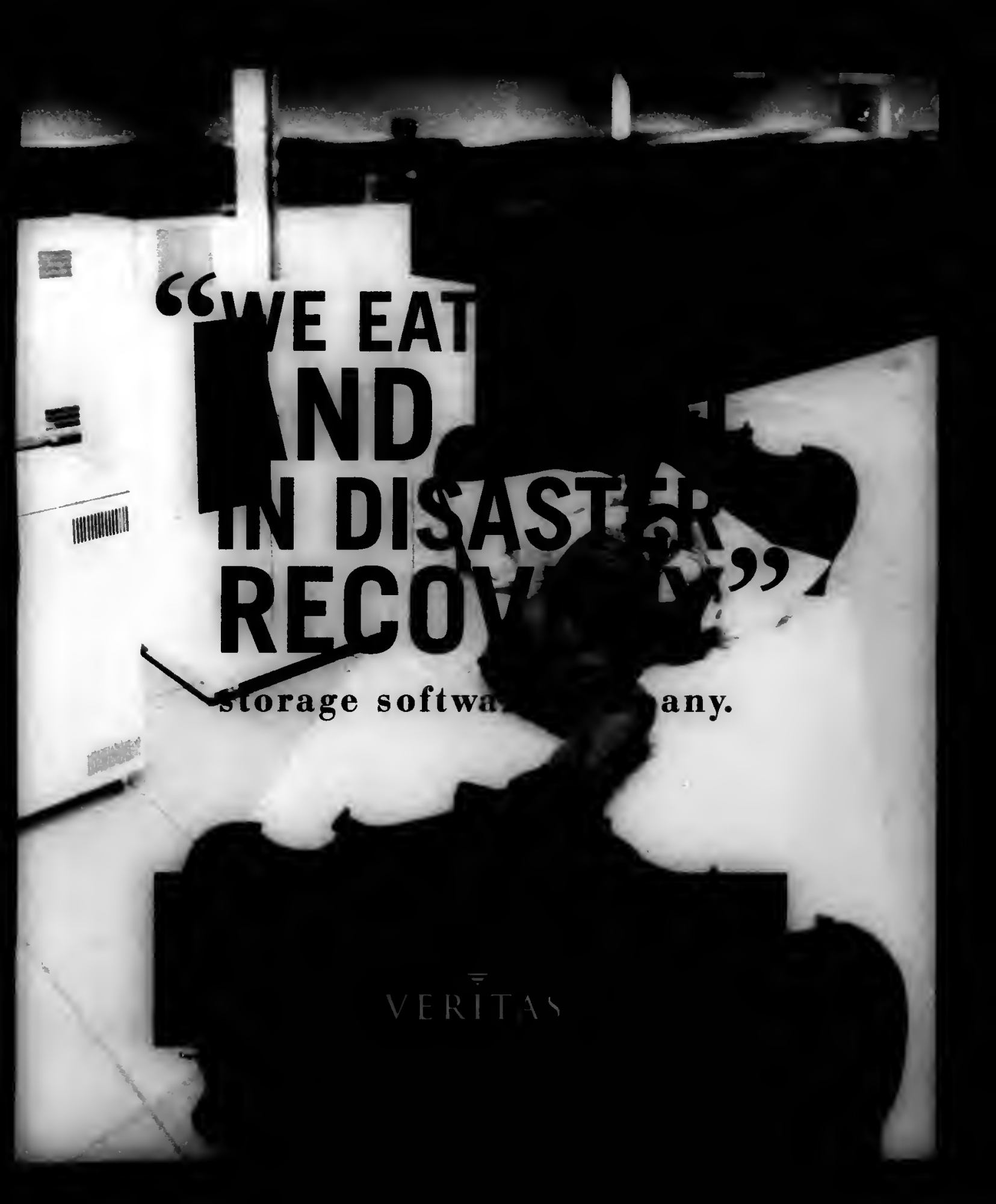
Ask for Help

Rickert offers the following advice to IT professionals who face technology decisions similar to those at KeyCorp:

■ If you haven't done it before, assume you're going to have a lot of problems.

■ You're going to need help from whoever sold you the technology, and you should get that help locked in early.

■ If for some reason you get into trouble, don't beat your head against the wall. Go and [the vendors] and make them help you.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Computing With Molecules

They're thousands of times smaller than transistors, and dirt-cheap. By Gary H. Anthes

SEVERAL YEARS AGO, Hewlett-Packard Co. built a 256-processor computer, but 220,000 of its parts were defective. HP was thrilled with the results.

The computer was built by HP Labs, HP's central research operation, using ordinary but faulty silicon chips, as part of its program in molecular computing. It proved that clever software can allow a computer to work even when many of its components are defective. That ability will be necessary for the construction of computers whose parts are so tiny that their reliability can't be assured.

FUTURE WATCH

"We know [that] at the molecular scale, there will be defects," says R. Stanley Williams, director of quantum science research at HP Labs in Palo Alto, Calif. "We won't attempt to build perfect circuits like Intel does."

For three decades, silicon chips have doubled in transistor density and performance every 18 months. But experts say that the laws of quantum physics will make further improvements impractical in about 10 years.

Researchers at HP and elsewhere are betting that tiny switches built from single molecules — many thousands of times smaller than a silicon transistor — will save the day. Molecular technology could be used to build supercomputers the size of wristwatches and diagnostic sensors that could be injected into the bloodstream, they predict.

The machines HP Labs is working on use switches made of molecules of rotaxane, an organic chemical. The company has already demonstrated a simple, one-function molecular switch, and it's now working on a circuit that will combine two Boolean operators, such as "and" and "or."

In a molecular switch, a molecule is trapped between two wires. A voltage applied across the wires changes the shape of the molecule, which in turn alters its electrical resistance. When the resistance is low, the switch is considered closed, representing a logical 1. When the resistance is high, the switch is open, representing a logical 0.

Power to Match Intel 4004

Williams says he hopes to make a molecular processor as powerful as the Intel 4004 chip "in a few years time." (The 4004, developed in 1969, was a four-bit, 104-KHz silicon device with 2,300 transistors.) Microprocessors based on molecular-scale switches will pass silicon in capability in 10 to 15 years, Williams predicts.

Organic molecules can serve as storage devices as well as switches. The University of California, Los Angeles (UCLA), which is working with HP, recently demonstrated a primitive memory built from these molecules.

Williams says he hopes to build an experimental memory device made of molecular switches that can store 1 trillion bits in one square centimeter within seven years. That's about 1,000 times denser than today's silicon memory chips.

In January, HP and UCLA patented a process for manufacturing a memory device from a grid of wires, each just a few atoms wide — connected by single-molecule switches. The wires aren't manufactured in the traditional sense but are made to grow naturally from a silicon substrate placed in a chemical bath. The patent also covers software that allows the grid to be mapped like city streets so information locations and flows can be precisely controlled.

Despite HP's initial success with molecular memories and logic, commercialization of the concepts is not a slam-dunk, Williams says.

"The major obstacle we face is we do not understand the fundamental physics behind the operation of our devices," he says. "I have had an HP vice president stare me right in the eye and tell me there is no way he's going to approve the funds for a manufacturing facility if I can't assure him we know exactly how and why these things work. If you don't understand the fundamental physics of the device, you can't fix it when it breaks, or you can't fix the factory when it breaks." ◗

SCIENTISTS AT HP LABS have produced an array of parallel conductive wires about 10 atoms wide. The wires will be used to connect molecular switches. The wires are on a silicon surface, as shown in these scanning tunneling microscope images.

WHAT ELSE IS HAPPENING?

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Wireless Security

DEFINITION

Wireless security requires a number of technical safeguards to protect the confidentiality and integrity of e-mail and other data broadcast over radio waves.

BY RUSSELL KAY

SOME PEOPLE think that the term *wireless security* is an oxymoron, but in fact, wireless security isn't very different from wired security. To protect data going out from an organization, whether over radio waves that anyone can listen in on or over phone lines or network cabling that can be wiretapped or sniffed, you need the same basic controls as with any other connection.

QUICK STUDY

There are two basic steps:

- A host system needs to authenticate the user or device that it's communicating with.
- The data must be protected as it travels from the user device to the destination host, whether to preserve confidentiality or to ensure that the message isn't changed or destroyed en route.

This discussion centers around security for wireless Ethernet networks using IEEE standard 802.11b (also called Wi-Fi), which offers speeds of up to 11M bit/sec. There are other standards and protocols for wireless communications, but most of the same security principles will apply to them. The vast majority of wireless networks now in operation are based on the 802.11b standard.

The first security mechanism built into Wi-Fi was Wired Equivalent Privacy (WEP), which allowed the encryption of wireless traffic. However, encryption is turned off by default in wireless devices and software, and in many cases, it's never turned on. But even when WEP is used, it isn't terribly secure.

WEP relies on a secret key to encrypt packets transmitted between a mobile station (a device with a wireless Ethernet card) and an access point (a base station connecting to a wired network). An integrity check ensures that packets aren't modified in transit. In the real world, most installations use a single key that's shared by all mobile stations and access points.

A 40-bit key is standard, but even the 128-bit version is vulnerable to attacks from crackers who can analyze traffic statistics; send messages of known content through networks from their own, unauthorized mobile stations; trick access points and reconfigure them; or build dictionaries of initialization vectors based on traffic analysis.

Last year, Ian Goldberg, a cryptologist at security and privacy software developer Zero-Knowledge Systems Inc. in Montreal, working with researchers at the University of California, Berkeley, broke WEP. Researchers at Rice University in Houston and AT&T Labs in Florham Park, N.J., later discovered an even easier method for breaking WEP.

Future Developments

Help is on the way. Task Group I (TGi) of the IEEE 802.11 Working Group has been busy trying to fill in the cracks of wireless network security. TGi is looking for a WEP replacement that can be implemented without making the current generation of wireless network equipment obsolete. Last year, TGi approved a measure to ensure a backward-compatible interim security improvement.

The long-term goal is to develop a system of great complexity that's efficient enough to embed in low-power, inexpensive devices. This ultimate standard will most likely use the federal government's Advanced Encryption Standard instead of WEP's weaker RC4 algorithm as the basis for its encryption, and it will almost certainly involve rotating through many different keys over short periods of time.

But that's a year or more in the future. For now, there's an interim solution, called the Temporal Key Integrity Protocol (TKIP), that strengthens WEP without revising it radically. TKIP uses a larger number of starting keys (initialization vectors) and dynamically generates new encryption keys every 10,000 packets. An integrity-checking mechanism helps determine whether an unauthorized user has modified packets by injecting traffic to enable key-cracking.

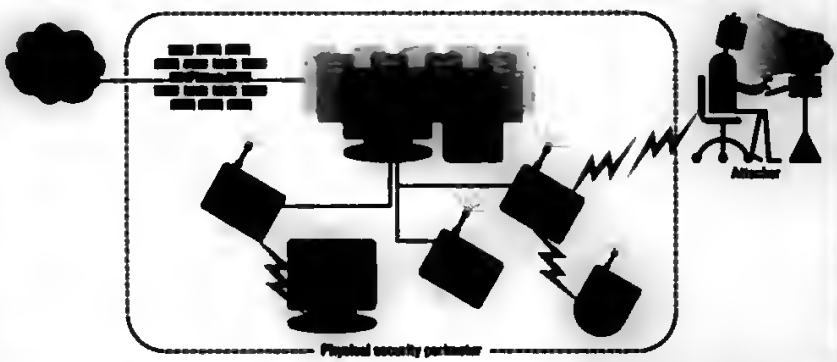
TKIP will be backward-compatible with current 802.11b products, and those products' firmware should be software-upgradable. TKIP is expected to be incorporated in new products soon.

To complicate matters, TGi also has to deal with the more general 802.1x security protocol, a method for securely authenticating users with a back-end system. Weaknesses in this approach have already been discovered, leaving it open to what's called a "man-in-the-middle" interception.

Given the weaknesses in 802.1x, it may be next year before an entirely new encryption-key standard is approved by the Institute of Electrical and Electronics Engineers Inc. and incorporated in devices. Until then, there's a good chance that TKIP will be upgraded in firmware through the end of this year.

The Threat to 802.11b Networks

Because an attacker can access an organization's wireless network from outside its actual premises and doesn't require a physical connection, there's a real need to safeguard information passing through that wireless network.



WIRELESS WATCH

- Read an analysis of the security of WEP. www.isaac.cs.berkeley.edu/isaac/wep-faq.html
- Download a good discussion of wireless encryption: www.agere.com/support/client/docs/OT02218.pdf

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Wireless WANs Take Fast Track

The first 2.5G and 3G wide-area wireless technologies are speedy, but high prices could limit the services' appeal.
By Matt Hamblen

WIRELESS cellular carriers are finally beginning to roll out faster, packetized, wide-area cellular data transmission services to support applications such as e-mail and Web browsing. While carriers classify these services as third-generatioo (3G) wireless or 2.5G, which specifies potential data rates up to 2.4G bit/sec., most services rolling out in the U.S. this year won't exceed 144K bit/sec., and real-world throughput to the end user will be substantially lower, vendors and analysts say.

But even a data rate of 60K bit/sec., which some carriers claim to offer, is four times faster than today's so-called 2G wireless services. Those speeds are fast enough to attract the attention of business users eager to read e-mail attachments and browse the Web from anywhere. And in two to five years, broadband wireless speeds may be fast enough to support streaming video and other complex applications, analysts say.

Some services are already available in some locations, such as Bedminster, N.J.-based Verizon Wireless' Express Network, which is based on the Code Division Multiple Access 2000 (CDMA2000) standard. Other carriers plan to roll out similar services this year. But these initial rollouts may be geographically limited and pricey, and throughput may be unreliable, say analysts, who urge restraint oo the part of enterprise customers.

It may also be tough to choose a carrier, since the technologies behind the major 2.5G and 3G services, such as General Packet Radio Service (GPRS) and CDMA2000, aren't interoperable.

Testing services this year is a good idea, but "enterprise users are advised to wait another year before investing, until these systems mature and offer the pricing and coverage oeeded," says Phillip Redman, an analyst at Gartner Inc. in Stamford, Conn.

EMERGING TECHNOLOGIES

Price Pains

These enhanced wireless services typically require a $200 to $300 wireless card for a laptop or handheld and carrier-provided software that includes compression algorithms. Some carriers sell new cell phones that work with the faster speeds and can be attached by a cable to a personal digital assistant or laptop.

But the biggest cost lies in the carriers' service charges. Several are experimenting with per-megabyte, rather than per-minute, pricing. And at $1 to $7 per megabyte, such pricing is the biggest inhibitor to adoption, Redman says. "No IT manager is going to be able to regulate how much ordinary users use," be says, noting that he averaged 12MB per hour reading e-mail and browsing the Web.

Sucb concerns haven't dissuaded HB Group Insurance Management Ltd. in Mississauga, Ontario, from field-testing the services. Its claims adjusters earlier this year tested an application that can input information and receive data on vehicle damage, using laptops with cellular modems and Toronto-based Bell Mobility's 86K bit/sec. service. The service was fast enough for the adjusters to use on location at auto body repair shops.

HB plans a more thorough test this summer and will ask users to keep logs of their habits and time spent online in order to assess actual costs, HB officials say. ▶

TECHNOLOGY ROAD TEST
A user reports on Verizon's new CDMA2000 service.
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■ SERVICE OFFERINGS

2.5G and 3G Wireless Packet Data Services

AT&T Wireless Services Inc.			
Bell Mobility			
Cingular Wireless			
Nextel Communications Inc.			
Sprint PCS Group			
Verizon Communications			
VoiceStream Wireless Corp.			

* Service will launch with nationwide coverage

All of the enhanced wide-area wireless services offer a digital, packet-switched architecture that features continuous connectivity and faster speeds. But the underlying technologies differ, which limits interoperability and could affect coverage. Those technologies include the following:

■ **CDMA2000:** The successor to the Code Division Multiple Access standard, CDMA2000 may eventually support speeds up to 2.4G bit/sec. The first generation, called CDMA2000 1x, calls for speeds up to 144K bit/sec., but vendors claim typical speeds of 50K to 80K bit/sec.

■ **EDGE:** The standard known as Enhanced Data Rates for GSM and TDMA/136 Evolution has a maximum data rate of 384K bit/sec. Vendors claim initial end-user rates of up to 150K bit/sec.

■ **GPRS:** General Packet Radio Service is the successor to the Global System for Mobile Communications, a popular European standard. The maximum data rate is 144K bit/sec., but vendors advertise end-user speeds of 20K to 40K bit/sec.

■ **IDEN:** Nextel Communications added compression to Motorola Inc.'s Integrated Digital Enhanced Network data network service to increase the data rate to 56K bit/sec. via a new modem card. Nextel is considering offering a CDMA2000 1x service as an upgrade path.

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EMERGING TECHNOLOGIES

TECHNOLOGY ROAD TEST

A user reports on Verizon's new CDMA2000 service

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■ SERVICE OFFERINGS

2.5G and 3G Wireless Packet Data Services

	TECHNOLOGY	ADVERTISED DATA RATE	INITIAL ROLLOUT
AT&T Wireless Services Inc.	GSM/GPRS	20 to 40	June 2001
	EDGE	Up to 150	June 2001
Bell Mobility	CDMA2000 1X	Up to 86	March 2002
Cingular Wireless	GSM/GPRS	20 to 40	June 2002
	EDGE	Up to 150	January 2003
Nextel Communications Inc.	IDEN	30 to 50	January 2003
Sprint PCS Group	CDMA2000 1X	50 to 70	Summer 2002*
Verizon Communications	CDMA2000 1X	60 to 60	January 2002
VoiceStream Wireless Corp.	GSM/GPRS	40	November 2001

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■ BUYING CRITERIA

Making th Right Call

Enterprise IT managers evaluating the viability of emerging 2.5G or 3G wide area wireless services should consider their needs in four areas before making a commitment.

Many users don't need continuous wireless connections. In those cases, a service with a time-based billing model might allow users to save on charges by making only periodic connections.

A test involving users will show how much data they transmit in real-world use, and that can be weighed against service providers' per-megabyte pricing models, which currently range from $1 to $7 per megabyte.

Carriers will allow roaming — at a cost — but you must weigh which providers offer the coverage you need. Technology differences among vendors may also limit coverage. Even two services based on the same CDMA2000 technology might not work with each other because the carriers may operate on different frequencies. The same goes for GPRS in Europe and the U.S. The best bet, analysts say, is to conduct a test with users who need the service before making a decision.

A service rated at 144K bit/sec. may deliver throughput at only one-fifth that speed in the location where you need it. That's why most vendors offering CDMA2000 1x-based services are publishing speeds of 50K to 80K bit/sec., rather than the theoretical limit of 144K bit/sec. Services based on the 115K bit/sec. GPRS technology might well deliver a throughput of 20K bit/sec. Actual speeds also vary depending on the proximity of cell towers to the end user, the number of users accessing a given cell tower and other factors.

Matt Hamblen

The Naked Truth About Porn Surfers

Despite stated policies and monitoring, Vince is astonished to find that some users still risk their jobs by surfing porn at work. By Vince Tuesday

SECURITY MANAGER'S JOURNAL

THE FOUNDERS of the Internet, with their lofty ideals, must be a bit embarrassed to know that one of the Internet's most common uses is for accessing pornographic Web sites.

Porn surfing on the job wastes staff time, fills bandwidth and leads to a hostile work environment. Some of it is likely to be illegal, and it can get your company covered in the press in damaging ways.

The legal hassles from associated sexual-harassment lawsuits can also be very expensive. So, how do we reduce the risks introduced by Internet porn?

Porn Surfer Psychology

When asked to help control a problem, we normally start by imagining why users would want to do something and then try to alter the environment so that they don't even try. For example, some people are driven to commit fraud by problems with drinking, drugs or gambling. We can reduce fraud by offering access to confidential help lines and other services.

When it comes to porn, this understanding is hard to achieve. Why would anyone want to view it at the office? We pay our staff well enough that they can afford Internet access at home or even a monthly subscription to a variety of adult publications, so why would they risk their jobs by abusing systems at work?

Without an effective psychological fix, we are left with technological approaches. Many tools claim to block or filter downloads, but they don't really fix the problem.

The number and names of porn sites are constantly changing, so blocking-software can't stop all porn surfing. Once users realize that we block some sites, will they assume that unblocked sites are approved? If we block a domain name, then how do we stop staffers from accessing the direct IP address? Since the latest Web protocols allow multiple sites to share a single IP address and use Domain Name System names in Web site addresses to direct traffic, how do we avoid blocking legitimate content on shared sites? If we block Web content, then do we approve of porn embedded in e-mails, handed around on CD-ROMs or exchanged via file-sharing networks?

Blocking can also inconvenience legitimate Web users. For example, back when AltaVista Co.'s Web site was popular, our CIO stormed over to the security team, calling us idiots for blocking *www.altavista.com*. After much shouting, it became clear that he had mistyped the address as "alatavista.com," which, when unblocked, displayed "alata" porn.

However blocking is handled, it will annoy users, who will try to bypass the controls and complain about my department. Because the same controls protect us from hackers and viruses, any success at bypassing them will increase the risk to the company. The last things we need are personal modems or Secure Sockets Layer-based anonymous Web-browsing services.

Instead of blocking site access, we set a public policy and report on compliance with that policy through usage monitoring.

This approach allows us to report not only the level of abuse but also the level of legitimate use of the Web. Our reporting tool includes many Web site categories, such as finance and investing. By showing that the Web is useful, we can use these statistics to support upgrades.

Enforcement Tactics

I've heard of companies that publish a weekly list of the top 10 abusers, but we don't go that far. What happens when you accuse the wrong person? When people start a contest to get to the top of the list? Or when the press gets a copy?

Instead, we send an anonymous warning if the daily report highlights a level of abuse above a particular threshold. We also check the sites to ensure that the database is correct. Further abuse results in disciplinary action.

By getting a quick slap on the wrist with no specific reference to the Web site or activity that led to the warning, offending users are usually frightened away from these Web sites. The anonymous warning makes the process less emotional. And by using a published, agreed-upon process, we limit the risk of managers or human resources personnel making ad hoc responses based on how much they value the person involved.

When we first published our porn policy and process, the level of abuse dropped. Then, after a few weeks, it crept back up. Once we started sending the warnings, however, the level dropped to zero. People knew their Web use was monitored and assumed the same about their e-mail and file sharing and so perhaps avoided porn on all of them.

Unhappy Ending

We were very happy that the problem was solved, smugly thinking that there would be no more abuse once we sent warnings. But we were proved wrong this week, when an employee who had been warned in the past did it again.

He knew we would take disciplinary action. What would be do to protect himself, we wondered? He could claim he didn't do it. Perhaps he would say we had framed him. As the logs are in plain text, it would be our word against his.

Even if you trust the logs, all they contain is a Windows NT user ID and an IP address. The employee could claim that his account was used by someone else. Or that be was a victim of "sticky browsing" (when porn sites open new windows as you close others). This leads to many entries in the logs for one accidental visit. There are even viruses like JS/NoClose that make infected machines visit porn and other sites.

Alternatively, he might admit it all and throw himself on the mercy of human resources. However, this employee took a different approach. He did admit to surfing porn sites, but he explained that since be had looked only at the free samples and didn't pay for access, he had done nothing wrong.

Strangely, the "I didn't pay for it" defense didn't stand up, and he no longer works for our company. So it looks like we finally have an explanation for wby people browse porn at work: sheer stupidity.

This week's journal is written by a real security manager, "Vince Tuesday," whose name and employer have been disguised for obvious reasons. Contact him at vince.tuesday@rushmail.com, or join the discussion in our forum.

QuickLink: a1590

To find a complete archive of our Security Manager's Journals, go online to www.computerworld.com/sm|

SECURITY LOG

USER REVIEW

Cyfin Reporter Brings Scalability

Many Web site blocking and reporting tools don't scale well, but Cyfin Reporter from Melbourne, Fla.-based Wavecrest Computing works with the high number of users and large volumes of Web traffic in my organization.

The user interface is a little clunky, and automated reports are not easy to configure. We also had difficulty in handling, storing and archiving the huge log files produced by Cyfin's proxy server.

The tool's reports contain detailed dossiers on users' behavior, and it includes automatic weekly updates of Wavecrest's Web sites database. Administrators can submit a list of unknown sites for Cyfin to categorize and can edit and add to the site and category lists. That flexibility makes this a powerful tool that I recommend for larger organizations – if you're willing to get agreement on policy and procedures first.

– *Vince Tuesday*

The Bare Facts

Internet users who surf adult sites

37%

Total porn traffic occurring during work hours

70%

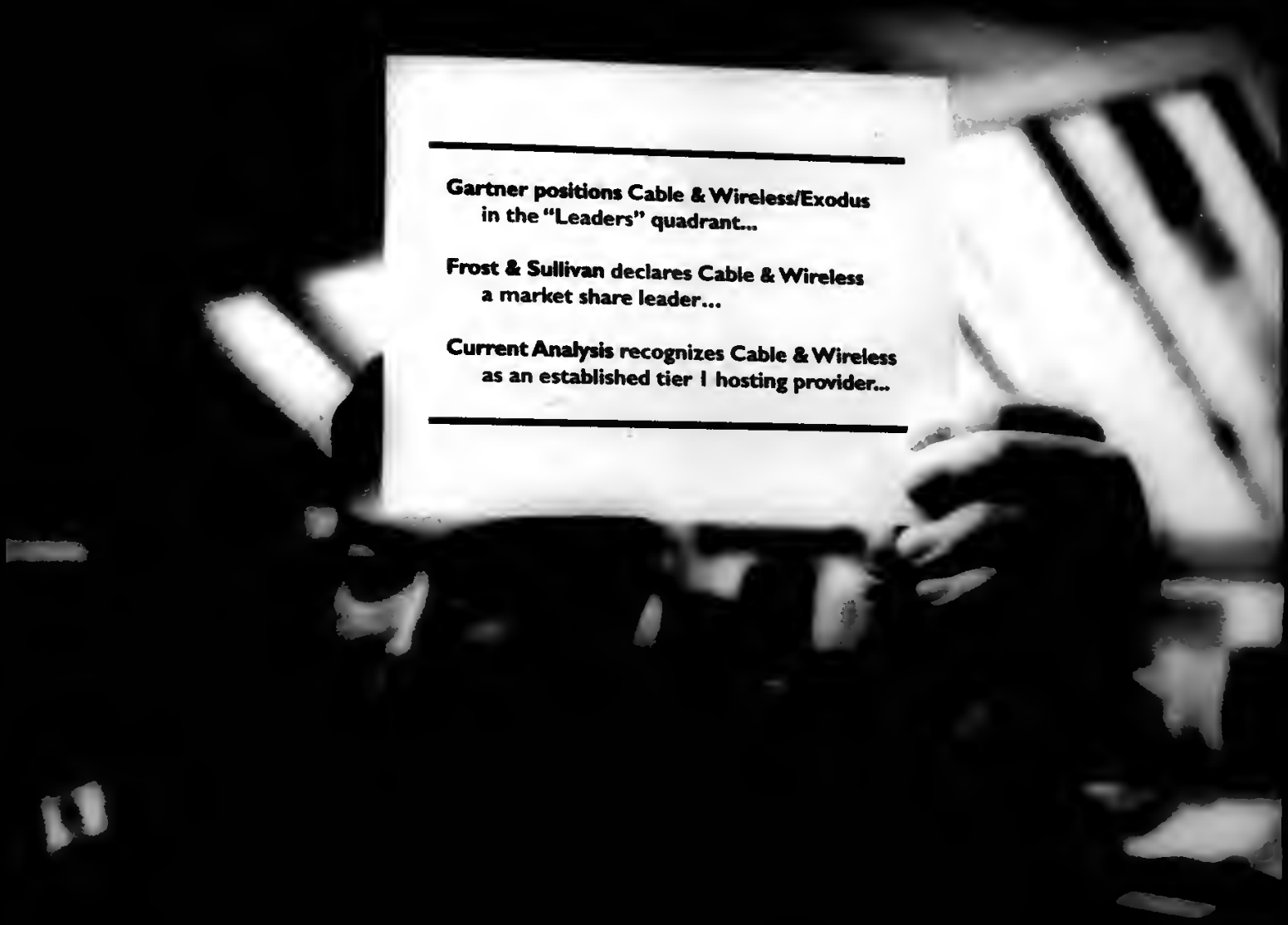
Employees who admit to personal surfing at work

60.7%

Sources: Jupiter Media Metrix Inc. SurfTracker University of California, Los Angeles, study on Internet and e-mail use, 2001-02

The Accidental Porn Surfer

When users access a Web site running the JS/NoClose JavaScript Trojan horse virus, their browser minimizes and new windows open that may display pornographic or advertising pages from other Web sites. These "sticky" pages can be difficult to remove. JS/NoClose may be deliberately used by unscrupulous Web sites that generate advertising commissions from the practice. Antivirus software vendors offer virus signatures that can help.


Gartner positions Cable & Wireless/Exodus in the "Leaders" quadrant...
Frost & Sullivan declares Cable & Wireless a market share leader...
Current Analysis recognizes Cable & Wireless as an established tier 1 hosting provider...

Sometimes what others say really does matter.

When considering the strongest partner to meet your Internet services needs, the opinion of experts counts. Industry thought leader Gartner, Inc. has positioned Cable & Wireless, and its Exodus business, as a "Leader" in the Magic Quadrant. Plus, Current Analysis and Frost & Sullivan have given Cable & Wireless their highest ratings. We provide businesses with a world-class global infrastructure and the industry's most comprehensive offering of flexible and secure managed Internet services. We're a financially stable Internet services provider with a proven track record. Find out more at www.cw.com/leader. We'd like to hear from you.

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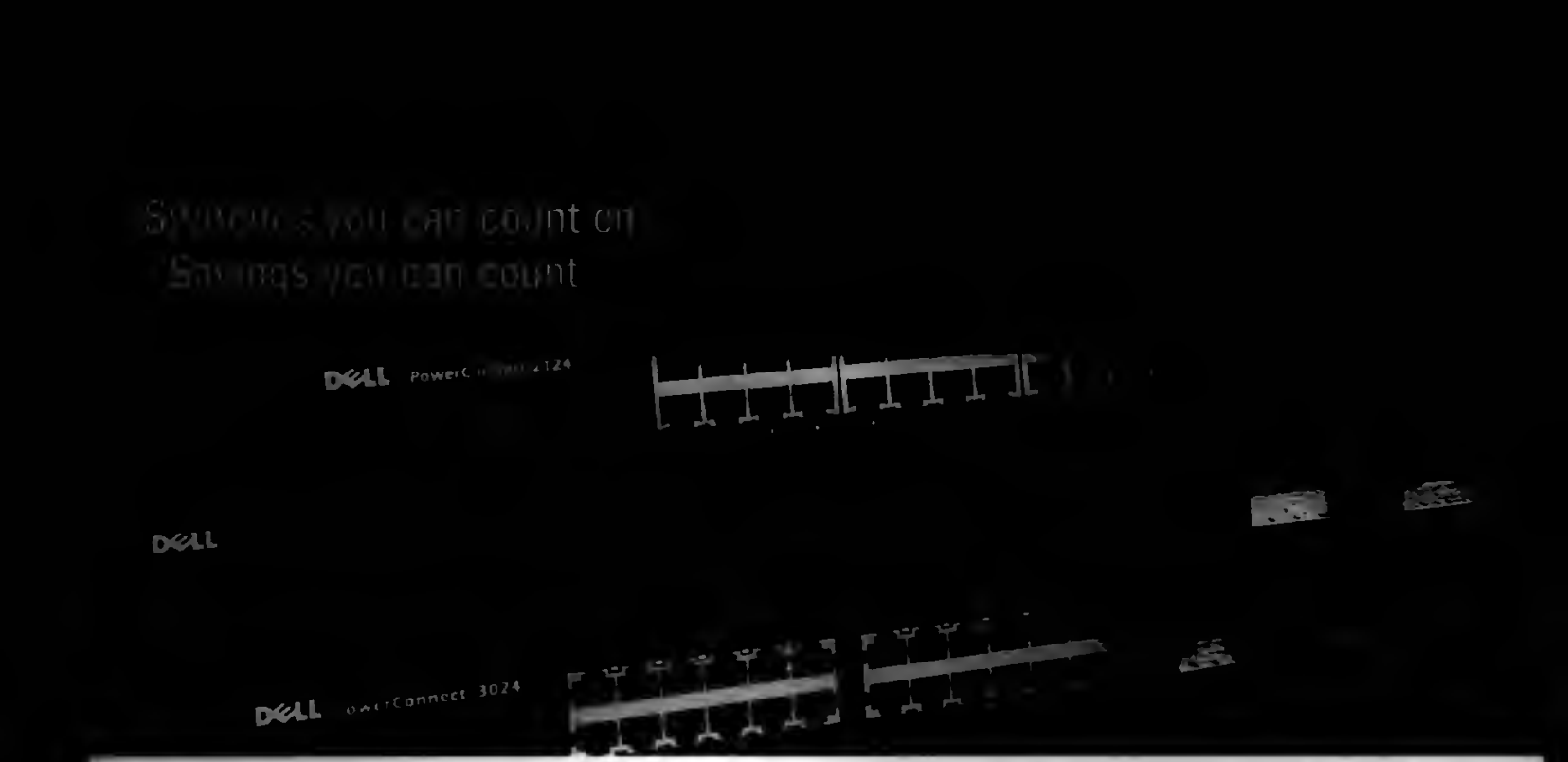

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E-VALUE Code: 11631-S10812

Recommended upgrade:
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THIS WEEK

STICKING FAST TO PLAN MEANS CUTTING COSTS

As we move into the second half of the year, most companies remain very cautious about making any on-the-fly changes to their original 2002 IT budgets. Look for continued cost-cutting this year, even if there's an uptick in the economy. PAGE 44

TIME TO ASSESS SKILLS

Don't stand still. CIOs like Commonwealth Financial Network's Ed Bell (above) are using the current hiring lull to assess staff skills and train IT workers so their companies can hit the ground running when the economy improves. PAGE 48

THE BEST IT MANAGERS KNOW THEIR NUMBERS

Companies looking to get a bigger bang for their shrinking IT bucks are training technology managers in financial analysis and project management. PAGE 52

CAREER ADVISER

Fran Quittel offers advice to a self-employed Web developer looking to re-enter the corporate IT workforce and to a systems developer looking to score a project management job. PAGE 54

RICHARD PELTZ/PEER TO PEERS

The Right Pitch

THERE WAS AN UPSIDE to the Y2k scare. The real or perceived threat of a technomeltdown provided the perfect excuse for IT managers to procure equipment and consulting services without much resistance from bottom-line-minded executives and bean counters. Today, however, Y2k is just a blip in the rearview mirror, and justifying new technology expenditures requires a much different approach and strategy.

An increased emphasis on return on investment, plus other disaster recovery considerations following Sept. 11, have added challenges for forward-looking technology strategists. But knowing how to pitch your request and understanding the concerns of the decision-maker who can decide its fate is now just as important as the request itself. So in this economy, and as companies begin putting together their budgets for next year, knowing your company's strategy and aligning IT with it can help you immensely when you ask for money.

I'm in the process of implementing collaboration software that real estate brokers at my company, Marcus & Millichap, can use to provide round-the-clock Internet-based support to our sellers and potential buyers. I considered the options of internally writing the software or outsourcing it. Regardless of the technology decision, my first priority was to establish a case of need to garner support for the project. This was a project that could be classified as "nice to have," oot as a "must have."

Marcus & Millichap has been in the commercial real estate investment brokerage business for 31 years. Introducing these new processes would require change and redefine the way our firm could conduct business in the future. But because collaboration software doesn't have a proven track record, this project and its implementatioo cost (which could have exceeded $275,000) was a difficult case to present. This had been an optional project in my budget for several years. But only recently did I find a vendor that I believed could make the project a reality. So my job was to obtain approval and the funds.

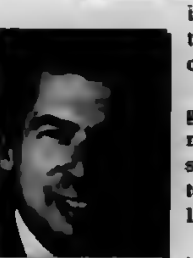
To secure buy-in from the business units, I faced a challenge in having to explain my vision to an audience that, four years ago, barely understood what the Internet was. I pitched the project to management, brokers and a few clients, painting a vision of round-the-clock client service with a competitive edge. To gain the CFO's approval, I needed to present a case with as little upfront cost and long-term risk as possible. The vendor played a very important role by agreeing to work with us to ensure that everything worked to our satisfaction before we paid. The vendor was taking a big risk, but it provided a strong guarantee that the product wasn't being misrepresented. I used one of the vendor's business partners to make implementation easier and provide on-the-job training to our people.

Finally, it was necessary to commit, schedule and transport already overtaxed IT staffers to a very short, 30-day time frame for implementation, testing and acceptance, which included scheduling and transportation for training.

The ROI? Developing the software in-house would have cost the same but taken six months. Since the collaboration software was off-the-shelf, we were able to install it in a few days. And by subscribing to the maintenance agreement, we were assured that fixes and enhancements, along with the vendor's support, were in place. We had a chance to go to production and market quickly, catching our rivals off guard and giving us a competitive edge.

Having received full funding and the green light, we're in the final stage of our monthlong project. By taking short, specific steps in proposing this project and customizing presentations to various audiences, I increased my chances of securing funds.

The lesson here? It's critical that you fully understand your company's business plan and design your IT department's strategy, vision and budgets to support it. That will align IT with the firm's overall strategy and development plans, enhancing your chances for approval when it's time to propose a critical project. ▶



RICHARD PELTZ is CIO and first vice president at Marcus & Millichap Real Estate Investment Brokerage Co. in Encino, Calif. Contact him at rpeltz@marcusmillichap.com.

ROBERT NEUBECKER

STICKING FAST TO PLAN

Cost-cutting remains a top budget priority for the second half of this year.

By Julia King

A YEAR-END SURGE in technology spending? Forget it. Ditto for the launch of big, competitive game-changing IT projects.

The reality is that as companies move into the second half of a year marked by depressed revenues, shrinking profit margins and massive layoffs, CIOs are sticking close *to* the strategic plan. And above all else, the plan calls for cutting costs — then going back and cutting them again.

For IT, the top budget priorities are projects aimed at creating common systems and cookie-cutter business processes that will shrink ongoing labor, maintenance and support costs. Better integration of existing systems, automating administrative tasks, such as expense reporting, and inserting self-service capabilities wherever possible are also key spending themes for the second half of this year. So are outsourcing and adopting common systems.

Conspicuously absent from second-half IT budgets are any and all surprises.

In a May survey of 369 CIOs conducted by Stamford, Conn.-based Gartner Inc. and New York-based The Goldman Sachs Group Inc., 89% of respondents

TREADING LIGHTLY

In April, many CIOs, though only half as many as in November, were cautious about making quick budget moves.

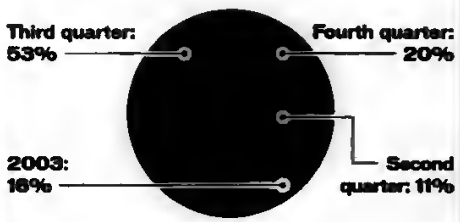
Q: Has the ongoing news about a slowing economy, combined with a stock market decline, caused you to re-evaluate your budget/spending plans within the past month?

Percentage of CIOs who answered yes:

SOURCE: MORGAN STANLEY DEAN WITTER & CO. SURVEY OF 225 CIOS, APRIL 2002

As of late February, most CIOs surveyed expected the economy to begin rebounding in the third quarter...

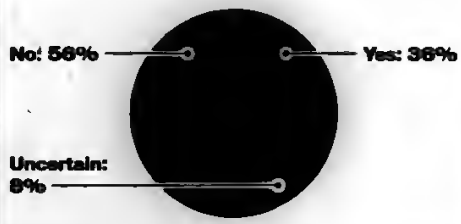
Q: When do you expect the economy to improve?



SOURCE: MORGAN STANLEY SURVEY OF 225 CIOS, PUBLISHED MARCH 2002

...but a month later, most of the CIOs said they didn't plan to spend more this year:

Q. Are you planning to spend more on technology products and services this year compared with 2001?



SOURCE: MORGAN STANLEY SURVEY OF 225 CIOS, MARCH 2002

said they anticipate a modest economic recovery by year's end. Yet they also remain obstinate about spending according to previously set plans: Regardless of month-to-month dips or upticks in the economy, 78% of the CIOs said they won't change how they intend to spend their budgets this year.

Cutting Costs Carefully

"The economy has caused us to do a lot of things in IT to manage costs better," says Jerry Hale, CIO at Eastman Chemical Co. in Kingsport, Tenn. "We'll spend as much as 10% less this year [compared with 2001], but hopefully, it will be without losing much capability at all."

Eastman plans to save money by first slashing labor costs. On average, salaries make up 42% of corporate IT budgets, with costs growing by 3% to 4% this year, according to a March poll of 75 CIOs by New York-based Merrill Lynch & Co. IT salaries are also frequently higher than other non-IT salaries, although the gap is narrowing, according to Meta Group Inc. in Stamford, Conn.

Last year, 68% of 250 companies surveyed by Meta reported IT salaries that were 11% to 20% higher than other staff salaries. This year, the percentage of companies paying that much more to IT staffers dropped to 46%. However, the percentage of companies paying IT salaries that are 6% to 10% higher than other salaries increased from 14% in 2001 to 35% this year.

"We're trying to select the lowest-cost skill set that can meet our needs," Hale says. "Consequently, we're using an offshore [labor] model more extensively" for e-commerce, application development and programming related to Eastman's SAP R/3 enterprise software. He estimates that 40% of Eastman's IT workforce is made up of contractors this year.

During the next six months, Eastman will focus on standardizing its e-commerce capabilities in Brazil, Germany and China. Thanks to centralized management of the company's business-to-business commerce portal, customers in those countries will be able to tap into the same product catalog and ordering system as all Eastman.com customers worldwide. Maintaining a single system keeps a lid on development and support costs, according to Hale.

During the third quarter, Eastman also plans to integrate two of six recently acquired companies into its R/3 system. The other four have already been assimilated. "Improving our cost structure and margins are why we're doing all of this," Hale says.

Gaylord Entertainment Co., which operates a chain of hotels catering to the convention industry, went through a "painful" downsizing of its IT staff in October, says CIO Kent Fourman. In the next six months, the Nashville-based company is looking to squeeze operational costs by consolidating and replacing scattered sales and catering applications with a single system. This will give executives a common lens to view all Gaylord properties and get one financial picture of the entire corporation.

This summer, Gaylord will also build and launch a single customer and marketing information database that can be leveraged by all of its hotels. The common database and processes will enable the company to more effectively market its properties to convention groups, which Gaylord hopes to rotate through its different hotel locations from year to year.

For example, if members of the Chicago-based American Medical Association met at Gaylord's Florida hotel this year, the company could market its Tennessee property to the group for next year. Two different hotels and locations for the conventioneers, but the business stays with Gaylord.

"The whole concept is to lock in customers by giving them a good and easy experience with a single hotelier. Common systems let us do that," Fourman says. "We've also done a lot of ROI [analysis] on it and found that if we can move the top line by one-half or 1%, the returns [in cost savings] are significant."

'Flight to Quality'

The Eastman and Gaylord cases illustrate what Meta analyst Howard Rubin characterizes as companies' "flight to quality" in tough economic times. That means providing better products and services by creating efficiencies within existing systems, rather than buying or building new ones.

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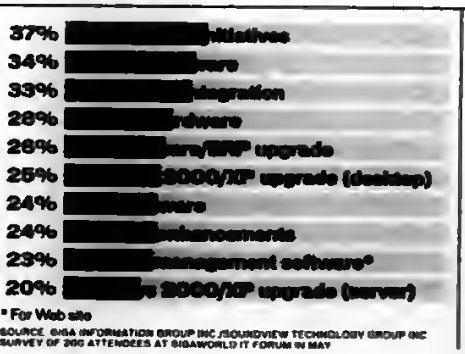
The top 10 IT spending priorities among CIOs for 2002 (percentage of respondents listing them as priorities):



* For Web site

SOURCE: GIGA INFORMATION GROUP INC./SOUNDVIEW TECHNOLOGY GROUP INC SURVEY OF 200 ATTENDEES AT GIGAWORLD IT FORUM IN MAY

Meanwhile, IT hiring will remain slow:

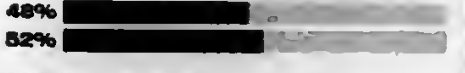
Q: What will be the growth rate of your people costs this year?

Average: 3.5%

Q: What percent of your IT people have been cut in the past year?

Average: 6%

Q: When your spending picks up, will you first add consultants or full-time employees?



SOURCE: MERRILL LYNCH & CO. TECHSTRAT SURVEY OF 75 U.S. AND 25 EUROPEAN CIOs, MARCH 2002

SECOND-HALF STRATEGIES

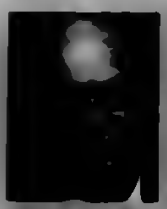
Eleven CIOs answered this question: *What is the most strategic IT/business project (or projects) your organization will be working on in the second half of 2002, and what are the business drivers behind it?*

■ **Jerry Miller, former CIO, Sears, Roebuck and Co.:** "One is an e-learning initiative where we're putting systems in stores so all training will be done online over the Web. We also have an e-recruiting initiative where all recruiting will be done online. We're installing a new workforce-scheduling system in all of our stores – all online and on the Web. The business drivers are increased productivity and driving out costs."

■ **Jan Rieker, president, Limited Technology Services:** "Implementing common systems across brands. . . . The fewer systems we have, the less complexity there is, so the more specialized we can be with services and support."

■ **Ray Johnson, vice president and CIO, Entergy Corp.:** "One of the major issues that we're dealing with is deregulation," which involves developing new retail market-facing systems. "It's just a matter of ramping that up."

■ **Malcolm Fields, CIO, HON Industries Inc.:** A customer relationship management project "with B2B and B2C elements. We have office furniture and fireplace businesses and work with many distributors. The drivers are getting close to the end customer and knowing who he is or she is. We want to know who is actually buying."



■ **Eric Dean, CIO, United Air Lines Inc.:** "There is no currently launched major IT project for the second half of 2002. The reason is that United continues in very serious economic crises. There are some projects under discussion related to the reservations-related systems."

■ **Doug Busch, CIO, Intel Corp.:** "As Intel's business becomes ever more global, it's critically important that teams of knowledge workers be able to collaborate on complex tasks efficiently and effectively. We are analyzing business processes, conducting research in partnership with product divisions and academic institutions like MIT, identifying tools that can be used to improve team productivity and making significant investments in very high-capacity networking between critical sites. Some of the

Continued on next page

said they anticipate a modest economic recovery by year's end. Yet they also remain obstinate about spending according to previously set plans: Regardless of month-to-month dips or upticks in the economy, 78% of the CtOs said they won't change how they intend to spend their budgets this year

Cutting Costs Carefully

"The economy has caused us to do a lot of things in IT to manage costs better," says Jerry Hale, CtO at Eastman Chemical Co. in Kingsport, Tenn. "We'll spend as much as t0% less this year [compared with 2001], but hopefully, it will be without losing much capability at all."

Eastman plans to save money by first slashing labor costs. On average, salaries make up 42% of corporate IT budgets, with costs growing by 3% to 4% this year, according to a Marcb poll of 75 CIOs by New York-based Merrill Lynch & Co. IT salaries are also frequently higher than other non-IT salaries, although the gap is narrowing, according to Meta Group Inc. in Stamford, Conn.

Last year, 68% of 250 companies surveyed by Meta reported IT salaries that were 11% to 20% higher than other staff salaries. This year, the percentage of companies paying that much more to IT staffers dropped to 46%. However, the percentage of companies paying IT salaries that are 6% to 10% higher than other salaries increased from 14% in 200t to 35% this year.

"We're trying to select the lowest-cost skill set that can meet our needs," Hale says. "Consequently, we're using an offshore [labor] model more extensively" for e-commerce, application development and programming related to Eastman's SAP R/3 enterprise software. He estimates that 40% of Eastman's IT workforce is made up of contractors this year.

During the next six months, Eastman will focus on standardizing its e-commerce capabilities in Brazil, Germany and China. Thanks to centralized management of the company's business-to-business commerce portal, customers in those countries will be able to tap into the same product catalog and ordering system as all Eastman.com customers worldwide. Maintaining a single system keeps a lid on development and support costs, according to Hale.

During the tbird quarter, Eastman also plans to integrate two of six recently acquired companies into its R/3 system. The other four have already been assimilated. "Improving our cost structure and margins are why we're doing all of this," Hale says.

Gaylord Entertainment Co., which operates a chain of hotels catering to the convention industry, went through a "painful" downsizing of its IT staff in October, says CIO Kent Fourman. In the next six months, the Nashville-based company is looking to squeeze operational costs by consolidating and replacing scattered sales and catering applications with a single system. This will give executives a common lens to view all Gaylord properties and get one financial picture of the entire corporation.

This summer, Gaylord will also build and launch a single customer and marketing information database that can be leveraged by all of its hotels. The common database and processes will enable the company to more effectively market its properties to convention groups, which Gaylord hopes to rotate through its different hotel locations from year to year.

For example, if members of the Chicago-based American Medical Association met at Gaylord's Florida hotel this year, the company could market its Tennessee property to the group for next year. Two different botels and locations for the conventioneers, but the business stays with Gaylord.

"The whole concept is to lock in customers by giving them a good and easy experience with a single hotelier. Common systems let us do that," Fourman says. "We've also done a lot of ROI [analysis] on it and found that if we can move the top line by one-half or 1%, the returns [in cost savings] are significant."

'Flight to Quality'

The Eastman and Gaylord cases illustrate what Meta analyst Howard Rubin characterizes as companies' "flight to quality" in tough economic times. That means providing better products and services by creating efficiencies within existing systems, rather than buying or building new ones.

Continued on next page

The top 10 IT spending priorities among CIOs for 2002 (percentage of respondents listing them as priorities):

37% [redacted] initiatives
34% [redacted]ware
33% [redacted]ntegration
28% [redacted]rdware
26% [redacted]ware/ERP upgrade
25% [redacted] 2000/XP upgrade (desktop)
24% [redacted]ware
24% [redacted]enhancements
23% [redacted]management software*
20% [redacted]s 2000/XP upgrade (server)

* For Web site

SOURCE: GIGA INFORMATION GROUP INC., FOUNDING & TECHNOLOGY GROUP INC. SURVEY OF 200 ATTENDEES AT GIGAWORLD IT FORUM IN MAY

Meanwhile, IT hiring will remain slow:

Q: What will be the growth rate of your people costs this year?

Average: 3.5%

Q: What percent of your IT people have been cut in the past year?

Average: 6%

Q: When your spending picks up, will you first add consultants or full-time employees?

48% [redacted]
52% [redacted]

SOURCE: MERRILL LYNCH & CO. TECHSTRAT SURVEY OF 78 U.S. AND 25 EUROPEAN CIOs, MARCH 2002

SECOND-HALF STRATEGIES

Eleven CIOs answered this question: *What is the most strategic IT/business project (or projects) your organization will be working on in the second half of 2002, and what are the business drivers behind it?*

■ **Jerry Miller, former CIO, Sears, Roebuck and Co.:** "One is an e-learning initiative where we're putting systems in stores so all training will be done online over the Web. We also have an e-recruiting initiative where all recruiting will be done online. We're installing a new workforce-scheduling system in all of our stores – all online and on the Web. The business drivers are increased productivity and driving out costs."

■ **Jon Ricker, president, Limited Technology Services:** "Implementing common systems across brands. . . . The fewer systems we have, the less complexity there is, so the more specialized we can be with services and support."

■ **Ray Johnson, vice president and CIO, Entergy Corp.:** "One of the major issues that we're dealing with is deregulation," which involves developing new retail market-facing systems. "It's just a matter of ramping that up."

■ **Malcolm Fields, CIO, HON Industries Inc.:** A customer relationship management project "with B2B and B2C elements. We have office furniture and fireplace businesses and work with many distributors. The drivers are getting close to the end customer and knowing who he is or she is. We want to know who is actually buying."

■ **Eric Dean, CIO, United Air Lines Inc.:** "There is no currently launched major IT project for the second half of 2002. The reason is that United continues in very serious economic crises. There are some projects under discussion related to the reservations-related systems."

■ **Doug Busch, CIO, Intel Corp.:** "As Intel's business becomes ever more global, it's critically important that teams of knowledge workers be able to collaborate on complex tasks efficiently and effectively. We are analyzing business processes, conducting research in partnership with product divisions and academic institutions like MIT, identifying tools that can be used to improve team productivity and making significant investments in very high-capacity networking between critical sites. Some of the

Continued on next page

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Continued from page 45

"What we're seeing now is companies investing in things that help them run their businesses better. They're going back to process efficiency and optimization," Rubin says. "In sectors that look tight in terms of revenue, companies will stay very close to home in their investments, with the big emphasis on squeezing out costs."

At Limited Technology Services Inc. (LTS), the IT arm of Columbus, Ohio-based retailer Limited Brands Inc., whose brands include Bath & Body Works, Express and Victoria's Secret, the drive toward common systems and process optimization began more than a year ago. Despite the economic downturn, that remains LTS's top budget priority for the rest of this year.

"Implementing common systems across brands applies to hardware and software. It's important because it gets us to a point where economies of scale begin to pay off" with labor costs, says Jon Ricker, president and chief technology officer at LTS.

"Common systems allow us to become very expert on a much smaller subset of systems, which increases our bench strength in terms of head count," Ricker says. "If I've got 100 developers and 100 applications, I basically have one person per application. If I have 100 developers and 10 applications, I can have 10 people deep in each application."

The bottom line: "The fewer systems we have, the less complexity there is, so the more specialized we can be with services and support," Ricker says.

Simplifying Infrastructure

Whether or not a new system can be applied across different business units is the litmus test for any project getting the green light at Reliant Energy Inc., a $38 billion, Houston-based corporation whose regulated business includes three gas companies.

"Three different systems means more costs," says CIO Ianthe McCrea. In fact, the cost savings associated with common systems are so compelling that one of McCrea's second-half priorities is linking one last business unit into Reliant's enterprise SAP R/3 system.

"Until we get that last company on the system, we don't have one place to go to look for HR or financial information for the whole corporation. Short-term, the return [on that implementation] isn't great, but by getting them on the same system, we're not managing two different processes, which cuts costs," McCrea says. "It also positions us for acquisitions. If we go out and buy a new company, they'll come in onto one system."

Sysco Corp., a food distribution company in Houston, is also intent on cutting costs by integrating applications. But it's keeping a keen eye on the future as it continues into the second half of the year with a massive enterprise application integration (EAI) software project.

"Right now, we're a $24 billion company, but our goal is to be a $50 billion company by 2008," says Sysco CIO Kirk Drummond. The company plans to reach that level primarily by acquiring other companies, such as purveyors of specialty meats and produce. "And since we're not going to convert [their IT systems] to our [enterprise resource planning] system, we need EAI so we'll be able to properly integrate," he says.

"The economy has been a challenge for us," Drummond adds. "Our sales are growing, but not as rapidly as they have historically, so we have to be prudent with our IT investments. But we are still investing."

Low risk is another way to sum up the kind of modest IT investments that companies will make between now and the end of the year.

Throughout the economic downturn, "the IT audience has become a lot more risk-averse," says Tom Pohlmann, an analyst at Forrester Research Inc. in Cambridge, Mass. "They're not going to overreact or act quickly in shifting budget money from one category to another. They will be slow to respond in a positive or a negative way."

In other words, you can look forward to six more months of sticking to the plan. ▶

GUARANTEED TO SHRINK

CIOs offer these tips about paring costs:

- Common processes cut labor costs.
- Fewer software applications mean lower maintenance costs.
- Self-service lowers support expenses.

HOW TO CALCULATE IT VALUE

Learn how Entergy Corp. teaches its managers to generate and track IT value.

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Continued from page 45

[projects] we are pursuing include establishing a broadband network infrastructure throughout Intel and developing voice over IP for notebook computers to be used as a conferencing tool."

■ **Jean K. Holley, CIO, US8 Corp.:** "We have three key initiatives for 2002: implementing Oracle financials, upgrading and consolidating our infrastructure, and customer relationship management. Implementing our Oracle financials is key because the other initiatives build on this."

■ **Cora Carmody, Inveneye Software Systems:** "The Information Highway project. There is a core investment of just under $1 million. The business drivers are unifying our business information [systems] to provide better, more timely information to the decision-makers and to streamline the integration of our applications."

■ **Barbara Z. Buechner, senior manager of information security, Merck-Medco Managed Care LLC:** Health Insurance Portability and Accountability Act (HIPAA) compliance. "The changes we are making for HIPAA compliance will enable us to leverage standardization as we go forward, minimizing redundant files and simplifying enhancements to our applications."

■ **Russ Lewis, CIO, GFinet Inc.:** "I've been focusing on security, both physical and data. Any black eye at this point in terms of accounting or data is not acceptable. On the data side, we're making sure replication services are hardened. On the physical security side, we're making sure IDs and swipe cards are validated and access to the premises have video and electronic surveillance."

■ **John Flore, CIO, State Street Corp.:** "We're continuing on with projects we started last year. All of these new platforms we're creating will be integrated through use of messaging technology, like SOAP, XML. As a transaction comes in from a client, that transaction might span multiple applications internal to State Street, but from a customer's perspective, that has to be a single event."

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Don't Just Stand There—Get Ready

Use the current hiring lull to sharpen your IT workforce.

[illegible] Ed Bell just said no.

The CIO at Commonwealth Financial Network in Waltham, Mass., knew that competitive pressures in the investment brokerage business wouldn't allow his IT staff to slack off during the downturn, so he took a pragmatic approach to the present that's also preparing his staff for the future.

When 2001 closed with revenue down, Bell was forced to reduce his IT staff by 10%. Early this year, he delayed some infrastructure upgrades and avoided what he calls "significant" new costs by consolidating servers rather than buying new ones for new applications. Then, he focused about a third of his projects on productivity enhancements that cut costs and put Commonwealth in a good position for an upturn.

Those tactical moves let Bell concentrate the other two-thirds of his projects on strategic initiatives. One such project provides multidimensional views of millions of aggregated data records. This enables Commonwealth and its customers to benchmark against the competition.

"Those are strategic things that you've got to do," Bell says. "When things loosen up, I'll be that step ahead of the competition." This is because tactical projects will have strengthened his staffers' skills in workflow management technologies, such as imaging. Strategic projects will have enhanced their next-generation online analytical processing skills.

Smart IT managers are using a slowdown in contracting to take a strategic look at IT staffing.

With cutbacks and layoffs, not everyone has the resources to move ahead with strategic projects. But even if the recession has forced you to cut back on projects, you can use this time to assess your skill base, figure out what you'll need and get organized to hit the ground running when your budget loosens.

First, get your bearings. The downturn may have shifted business strategy and resources, so you may need to regroup. "Focus on basics," advises Lawrence Brunelle, CEO of Blue Element Consulting Inc., an IT consulting firm in Pleasanton, Calif. Understand your organization's strategy and your capabilities, from hardware and software to infrastructure and people. Know what's in place and what's needed to support new goals.

"If you haven't done an IT skills assessment, do it now," says Betty Calhoun, director of special projects at the information management support division of DynCorp, a government contractor in Reston, Va. Find out your employees' strengths and weaknesses, what they know and what kind of projects they have worked on in the past.

Then, see how those skills correspond to projects that will flow when the economy improves. For example, Brunelle's clients say that when confidence returns, they'll be investing in IT projects to enhance marketing, sales and customer-support capabilities. And security is a high priority virtually everywhere, says Scot Melland, CEO of Dice Inc., an online IT job service in New York. Projects that address networking and security concerns will be high on the to-do list.

The Business/Technology Link

Eric Dean, CIO at United Air Lines Inc., a subsidiary of UAL Corp. in Chicago, says that after the upturn, his hard-hit company will focus on two areas: customer service and operations support. "We've got big programs on hold in both areas, so that's what we'll be doing," he says.

With his IT staff cut by half, Dean says he's giving his employees practice in the skill that's hardest to find and needed most: the ability to translate between the business side and IT.

By repeatedly delivering business results on smaller projects, his staffers will develop the judgment they'll need for bigger initiatives now on hold. "You develop judgment through experience," he says. "And we'll have plenty of practice because the economics are not going to turn any time soon."

Whatever projects your company will initiate when money loosens up, look now at how you'll prioritize and manage your project portfolio. "It's a good time to get in place a process for when the project faucet turns on," says Kazim Isfahani, an analyst at Robert Frances Group in Westport, Conn.

That includes people. Margaret Schweer, director of human resources for information services at Kraft Foods Inc. in Northfield, Ill., says she is using the

On Your Mark

Experts say you should be doing the following to prepare for an upturn.

FOCUS the future

USE tactical projects to cut [illegible] revenue for strategic initiatives

ASSESS your IT organization's capabilities

RECALIBRATE your workforce to match [illegible]

TREAT your [illegible]

ANTICIPATE [illegible]

UNDERSTAND [illegible]

INVEST in training for [illegible]

UNDERSTAND hiring [illegible]

DEVISE a strategy for [illegible]

DEVELOP talent pools [illegible]

LAY the foundation for projects [illegible]

Don't Just Stand There—Get Ready

Use the current hiring lull to sharpen your IT workforce. By Kathleen Melymuka

WHEN THE RECESSION CAME, Ed Bell just said no.

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NEXT WEEK
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That includes people. Margaret Schweer, director of human resources for information services at Kraft Foods Inc. in Northfield, Ill., says she is using the

wide array of people in the job market to "recalibrate" her IT workforce. "Look at where your talent is vs. what's available on the outside and what you need to do to sync up, and make sure your people are competitive," she says.

But avoid taking advantage of tough times by withholding raises and laying off people, she adds. "People remember how you treat them. That's important to retention when good times come again," Schweer says.

Dave Ellis, a vice president of information services at The Home Depot Inc. in Atlanta, agrees. He says his company has remained robust during the downturn and has hired some of the IT talent that has become available. But now is also the time to strategize about retention for the tighter talent market to come, he says. "For me, the challenge is to retain that talent when the opportunity list grows longer and more diverse as the market grows," Ellis says. He does that by offering challenging assignments, growth opportunities and variety.

"Top performers will be the first ones headhunters come after, so do whatever you can to keep your best people happy," says Georgine Young, a senior consultant at The Woodlands, Texas-based office of Hewitt Associates LLC. Young says some firms are using all their salary increases for top performers; others are granting stock options to the top 10%, even as layoffs continue. At the least, you can invest in your staffers by offering training opportunities, showing you value them and building loyalty. "Companies that do that are positioning themselves to retain those performers when the market turns around," she says.

LOOKING FOR SIGNALS

Planning for a rebound requires IT leaders to pick up on all kinds of technology and business changes.

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John McKinley, executive vice president and head of global technology and services at Merrill Lynch & Co. in New York, is using the downturn for leadership development in three areas that he sees as the keys to the future. "On the tech level, we think Web services will be as fundamental and impactful as IT networking and HTML," he says. So he's sending his entire leadership team to Web services "boot camp."

Eighteen months into a Six Sigma initiative, McKinley is also drilling his people in Six Sigma methodology, a rigorous approach to building quality into business processes. Finally, he's developing his staff's ability to manage the "virtual organization," from application service providers and hosting services to outsourcers. "IT professionals have to be to be able to effectively manage that extended support organization," McKinley says.

Hiring Strategy

For skills you don't plan to grow in-house, it's never too early to think about hiring, even though most managers say they have no plans to hire soon. Keep in mind that the upturn probably won't be a straight diagonal line, says Brunelle. "It's going to be highs and lows over at least a couple of quarters, so put a strategy in place to deal with that," he advises.

Melland says that will mean an initial surge in contractors and consultants. "It's risk-hedging on the part of companies, a way for them to stretch existing IT teams and get some initial projects done," he says.

But take the long view. "Look at contractor or temp vs. full-time, and selectively decide which positions you really do need to fill," says Schweer.

Know your time frame to hire and the costs, says Calhoun, including lost revenue opportunities from that project that can't begin until the new hire is ready. "If I know these figures, I know how far ahead I need to start that hiring process," she says. And if you know the cost of delaying a project, you know whether it makes sense to take a chance and hire that person earlier.

Develop recruiting channels such as employee referrals, job boards and alumni networks, Isfahani says. Use those to create a pool of potential candidates. Keep them interested with informative e-mail about your organization, strategy and vision, so they'll be primed when you're ready to hire.

You may not be able to predict when the upturn will begin, but if you use the interim well, you'll have the talent and organization you'll need.

TRACY PORTER

Hot Skills

The following are some of the top skills companies will be looking for as the economy improves:

- Business/technology analysis
- Web security
- Network security
- Project management
- Enterprise architecture
- Risk analysis
- Database administration
- Server administration
- Web transaction
- Application programming, especially Java
- Networking
- E-commerce
- Tech support
- ERP

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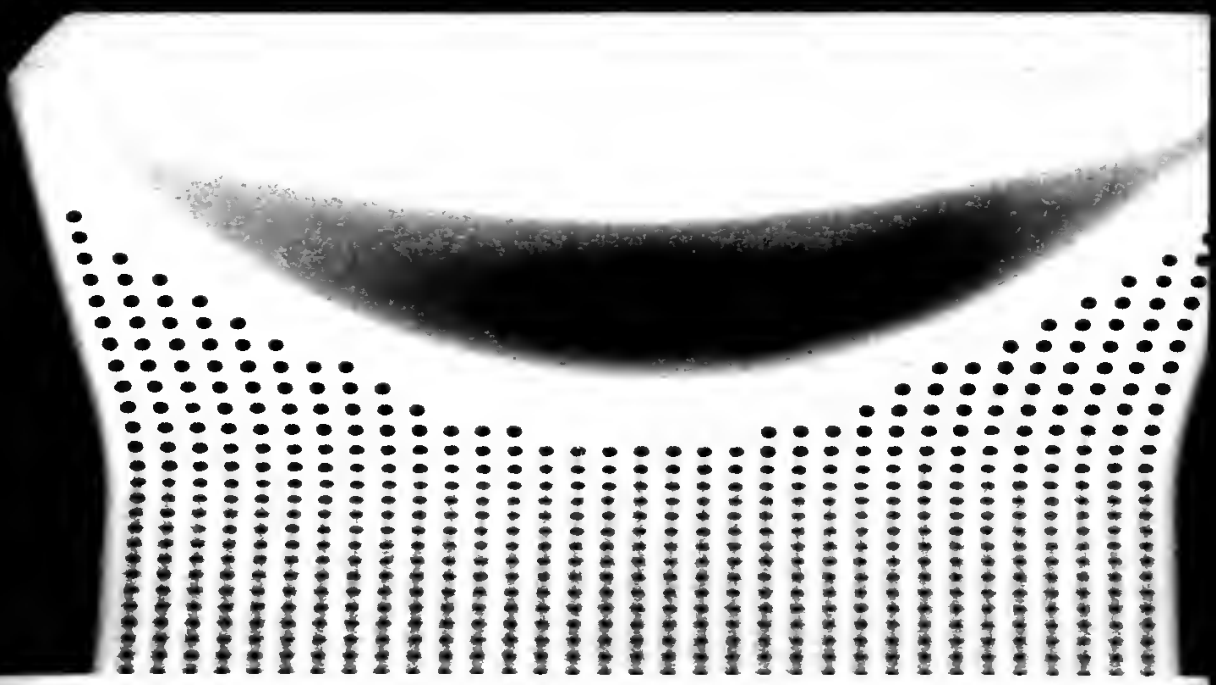

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Microsoft

Making the Case For ROI TRAINING

IT managers with financial know-how deliver more cost-effective projects. By Barbara DePompa Reimers

THREE ROI "BULLET POINTS" slapped on a PowerPoint slide won't work to justify even the smallest IT investment. Top managers working with slashed budgets and smaller staffs want detailed cost/benefit analyses before they invest in new IT projects. Yet most IT professionals have never been formally trained on how to calculate return on investment or perform detailed cost studies.

That's beginning to change. Many businesses are kicking up their investments in project management and financial analysis training as a way to teach IT workers how to evaluate investments for ROI.

"CEOs and boards of directors are requiring specific information about financial costs and benefits before they will give the green light for new IT investments," says Lou Marcoccio, president of Marcoccio Associates, a Westboro, Mass.-based consulting firm specializing in cost/benefit analysis.

Project management training enables IT professionals to adopt a methodology that puts rigor behind business planning processes. "Many organizations have identified [project management] training as one of the best investments a company can make to bring the ROI they want," says John Bonnano, chief operating officer at TrainingTrack, a division of Boston University's Corporate Education Center.

UnumProvident Corp. is among them. "We realize training in project management and financial analysis is no longer merely a 'soft' item," says Rick O'Coin, the insurance company's director of IT education. "We can't ask IT departments to measure, evaluate and forecast ROI with no training or experience."

O'Coin says UnumProvident identified a gap in its IT training more than a year ago. "We weren't running projects well and weren't performing ROI or cost/benefit analyses as we should," he says.

Last spring, 30 of the firm's top IT project managers completed training from Boston University, which provided on-site sessions three days a week for nine months at the company's twin headquarters in Portland, Maine, and Chattanooga, Tenn. O'Coin says he's seeing an attitude shift toward ROI evaluation and project management training.

"When dollars were tight, we'd send IT professionals only for technical training, but not for other soft [skills]," he says. "Now we're sending those technology executives for project management training, and [we're] even evaluating what they've learned."

A year ago, says Marcoccio, only seven schools in the U.S. offered ROI-related training as part of their computer science programs. Now more than 1,500 courses are offered in colleges and universities and online. "This is a major money-making opportunity for many schools, as CIOs and IT organizations must learn to provide detailed cost analysis," he says.

Due Diligence, Please

Largely because of Enron Corp.'s financial woes, top managers are aware that they may be held liable if they don't exercise due diligence for potential investments. As a result, companies are performing quarterly financial breakdowns of costs, plus the direct and indirect benefits of any IT investment over a system's life.

Increasingly, executives want to know "what any new system will cost to maintain, what it will cost to train users, what it will cost to upgrade and what it will cost at the end of its useful life cycle to replace the technology," says Marcoccio.

At the same time, the payback period is shrinking. The typical time frame of 12 to 24 months for large IT projects has been pared down to eight months. The upshot is that CIOs must painstakingly analyze all costs to justify IT investments. It has also become nearly impossible to defend larger investments that can't guarantee returns within a year.

Ultimately, most businesses and industry analysts view the trend toward training IT personnel to evaluate and forecast ROI as a big plus in the long run. Some say the faster an organization can clearly visualize the business impact of an IT investment, the sooner it will implement new IT projects. ▶

Reimers is a writer and editor in Germantown, Md. She can be reached at BDepompa@comcast.net.

Train, but Verify

Four key steps to assessing the effectiveness of ROI training:

1 KNOW WHAT YOU WANT.
Before an ROI training course, conduct an informal survey asking students questions such as, "How will you apply the skills learned?" and "Do you intend to use the skills you learned?"

2 GET IMMEDIATE FEEDBACK.
Using surveys, gauge initial reaction to the quality of the training. Ask questions including "Was the material easy to follow?" and "Was the instructor knowledgeable about the subject?"

3 TEST STUDENTS.
Use a written exam, a simulation or an instructor's evaluation to measure what students have learned.

4 ANALYZE THE LONG-TERM IMPACT.
Assess whether on-the-job behavior changed after training. UnumProvident, for example, is testing students following its first round of ROI training, completed in January, to see what they learned and have incorporated into current projects.

SOURCE: TONI HOBBS, PRESIDENT OF TH G CO., A CONSULTING FIRM IN CORKWATER, MD., SPECIALIZING IN MEASUREMENTS AND EVALUATION, AND AUTHOR OF *LAWING LEARNING AND PERFORMANCE* (BUTTERWORTH-HEINEMANN, 2001)

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Dear Career Adviser:

For the past six years, I have had my own Web development business, but I now find myself job hunting because I haven't enough clients to keep my enterprise going. What technical and soft skills should I emphasize when I market myself? — NEED WORK

Dear Need:

You have a skill set that could be valuable, says Nancy Gammalo, operations manager at NetPeople Inc. in Westlake, Ohio. Companies are seeking people with senior-level capabilities to recommend technology alternatives and help provide a technical direction.

Today's Web development job market requires strong experience in back-end Web development with multitiered, distributed applications, plus experience with the latest Web application servers.

The Web job market is kinder to individuals with IT architecture design experience, as well as to technical people who can analyze a business problem and visualize from both a technical and business perspective how a potential solution would work, says Gammalo. These individuals usually have a strong background in object-oriented analysis and design.

Finally, you should target private companies in the $20 million range. These are most apt to require this background and skill set.

Dear Career Adviser:

I currently work in systems development for an in-house insurance project and have nearly 30 years' experience in IT. I would like to become a business analyst and project manager for a similar project in the future. What experience do I need to get a project management job, and would Project Management Institute certification help?
— PROGRAMMER DOOM

Dear Doom:

A quick search on New York-based Dice Inc.'s Web site shows that more than 10% of current job listings are related to project management. "Companies have made multimillion-dollar investments in second-generation enterprise systems, from [customer relationship management] to supply chain management and [enterprise resource planning], with implementations often taking a lot longer than anticipated," says Bryan Moser, CEO of Global Project Design in Novato, Calif.

This means that cost-constrained IT departments are looking for quick technology implementations that show significant ROI. Therefore, getting a project management job will require more than knowing Microsoft Project or being a certified by the Project Management Institute Inc.

Modern tools for project management use simulation and risk-analysis technologies to schedule project tasks, manage disparate teams across multiple time zones, design a structure to handle multinational business or analyze the costs of co-locating teams, travel or employee turnover.

According to Moser, success comes to those who avoid time and cost overruns while helping companies to leverage the expensive investments they have already made. ▶

WORKSTYLES

IT Keeps Firm Powered Up

Velda Otey, director of IT career management, talks about how the IT workforce at American Electric Power Co. is coping with deregulation and the company's globalization effort.

What are the most critical systems supported by your department? "Customer billing, transmission operation, [enterprise resource planning] applications and the plant work management systems — all of these are critical. And now that the company is going international, a simple thing like e-mail — with people in different time zones and traveling all the time — is mission-critical."

How has deregulation changed IT? "The IT organization needs to understand that the different business segments within the company have different business drivers that we need to be in tune with. There's also a lot of real-time information that has become critical. For example, in our plants, there's information about operations, reliability and outage schedules that can help us provide better customer service and make better business decisions."

How would you describe the pace of the work? "It's always a hectic pace. Because of deregulation and restructuring the company, it's not the utility industry that we knew in the '70s. We have to be prepared to respond to regulation changes and to business changes and to support new ventures. And we really don't have a cyclical business because people use electricity all year long."

How would you describe the overall culture of IT at your company? "We spend a lot of time articulating our vision and direction and priorities so that all 900 [IT] people are aligned with what we need to accomplish."

How much interaction does the IT department have with business users? "On our application side, the IT staff sits with the business users. We want to develop those partnerships and make sure IT's priorities are aligned with business needs. And we want our employees to understand the cyclical urgencies of the organization they support."

What do you like best about how career advancement and training are handled at your company? "We have career coaches for our IT professionals who help each individual align their career desires with the needs of the company. We also keep a skills inventory that allows us to tap into the skill resources of our 900 people. Before, it was, 'Who do you know?' The most visible people got the perceived best assignments."

What makes your company's IT department unique? "Our CIO's willingness to truly invest in the employee. We have a whole career management organization whose sole responsibility is to focus on the employee."

– Mary Brandel
brandels@attbi.com

American Electric Power

Who they are: A multinational energy company

Main location: Columbus, Ohio

Number of IT employees: 900

Interviewee: Velda Otey, director of IT career management

@server

Omaha Steaks' online sales have soared 150% over the last 3 years. And with 20% of their sales now conducted over the Web, they clearly required a highly available server. Since deployment, their IBM @server iSeries™ has been rock solid (2 years, no unplanned downtime). And that's a job well done. For a complimentary consultation with an iSeries specialist, visit **ibm.com**/eserver/omaha, or call **1 800 426-7777** and mention priority code 102AG006.

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Multiple positions available for Programmer Analysts, Software Engineers and Project Managers. Must be willing to travel and relocate frequently, must possess work experience in a computer software environment and must have knowledge and proficiency in one or more of the following skill sets:

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Midrange: AS400, JD EDWARDS

Client Server: Visual Basic, ASP, ColdFusion SQL Server,Oracle, Sybase, Developer 2000, Designer 2000, PowerBuilder, UNIX, C, C++, VC++, OOAD, Java, HTML, Active X, E-Commerce, Unix System Administration, WIN NT Administration, Weblogic

Programmer Analyst positions require a Bachelor's degree in Computer Science, Engineering or related field and 12 months of work experience.

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Project Manager positions require a Master's degree or a Bachelor's degree and 5 years of post-baccalaureate, progressive work experience to be equivalent to a Master's degree in Computer Science, Engineering or related field and 2 years of work experience as a Project Team Leader or other project management position. Must be knowledgeable and proficient in estimating time and labor resources necessary to complete project and defining project requirements.

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First Data Corporation has an opening in our Montvale, NJ office for a Quality Assurance Engineer to develop complete plans for the testing and quality assurance of software systems including e-commerce projects. Successful candidates should have a bachelor's degree in computer science and or least four years of related experience in software quality assurance. Candidates must also have working knowledge of Java Enterprise application development including Java Scripting, SQL Server 7.0, Products testing tools and Broadvision Enterprise application developer. Interested candidates should send resumes to Norm Barnett, First Data Corporation, 6200 S. Quebec, Greenwood Village, CO 80211

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NET2S is a leading International Consulting and Engineering firm specializing in communications technologies. We are presently seeking to fill the following positions.

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COMPUTER PROGRAMMER to develop, test, analyze implement and maintain programs using VBScript, ASP, JavaScript, CICS, DB2, VS COBOL and SQL Server on IBM mainframe, UNIX, Windows NT and ISS for online transactions. Require: Bachelor (or equivalent) in Business Administration, Computer Science or related and two years experience in the job offered. Salary: $65,000 per year, 8 am to 5 pm, M-F. Apply with resume to: Human Resource Manager, Lawrence & Associates, Inc. 12662 Manchester road, Suite 204, St. Louis, MO 63131

Database Administrators needed. Positions available for candidates possessing MS/BS degree or equivalent and relevant work experience. Duties include: Installing, upgrading and customizing Oracle databases; analyzing data and designing and modifying forms and reports. Work with 3 of the following: PL/SQL, Unix, NT and Linux. Mail resume, references and salary requirements to The Dash Corporation, 7320 Fabion Drive, Austin, TX 78759

Currency Systems International, Inc., an Irving TX manufacturer of currency processing equipment, is seeking several IT/ Engineering Professionals at various levels. Applicants please e-mail resumes to hr@currencysystems.com. No phone calls will be accepted.

We search for Senior Web Architects with the following skills for ourLawrenceville Data Center. Mastery of Microsoft technologies and products,including Windows 2000 Server, Internet Information Server, SQL Server 2000and VBScript is necessary. Proficiency in HTML and JavaScript required.Bachelor's degree with significant experience with Web, database and DNSservers and maintenance in a Windows environment is also required. Please mail your resume to Saks Incorporated, Corporate Human Resources, 2300 Brunswick Pike, Lawrenceville, NJ 08648

Computer Programmer II to develop and write computer programs according to customer's project specifications to store locate and retrieve credit data and information and to code, test, implement customer application programs on midrange Unix platform using primarily C SQL, and Oracle database, and provide ongoing support. Require BS or foreign equivalent in CS, CE or CIS and proficiency in C SQL, Oracle database, Unix shell script, and Unix platform 40hrs/wk. Contact Wendy Hill Recruiting, Equilax, 1525 Windward Concourse, Mail Drop 42A, Alpharetta, GA 30005 Ref Code GA-ZXJ

Sr. Network Admin. You will ensure 24x7 availability of servers for Oracle SQL, Access, Exchange & web services, incl h/w and s/w in a heterogeneous UNIX/Windows NT & 2000 environment. You will support needs analysis and expansion planning; provide user support and training; ensure both accessibility and security; configure and support upgrades, and performance tune all components and apps. Req: 5+ yrs exp in software support, 3+ yrs of which incl network admin in heterogeneous network and OS environments. No visa sponsorship. Principals only. Send resume to PTC Therapeutics, Inc. ATTN: Hum. Res., Job Code 05 1010G, 100 Corporate Court, South Plainfield, NJ 07080 or by fax to 908-548-9992.

Systems Analyst for design of client/server applns., XML web applns., & graph interfaces with MS tools Oracle PL/SQL, SQL *Plus Dev 2000 Microstrategy rpts. on Windows 2000/NT Use Visual Interdev, Dreamweaver Flash & Fireworks in web dsn & code dbase triggers with shell scripts & store procs. Prep specs., doc. code dev. testing, and debugging. Tech. Support/product assist. Salary at Prevailing Wages. Candidates with BS in Electronics Eng. or Comp. Sci., 2 yr. of exp., & training in Oracle/ Microstrategy apply to Xpansion 215 Annesdale Court, Ste 100, Alpharetta, GA 30022 with proof of work authorization.

Software Engineers needed by Alpharetta based IT Co. Bachelors degree with 1-2 years of experience in job.Exp in Skill sets incl Java, JSP, Servlets, JDBC, XML, UML, Unix, NT, VB, ASP, C#, .Net, Business Objects, Crystal Reports, Oracle, SQL Server, JavaScript, XML, C, C++, AS/400, COBOL, DB2, CICS, JCL, MVS, VSAM, Embedded/Firmware, Coldfusion, Perl, PHP, Network Administration, Rational Clearcase Administration, Netscape proxy server, Microsoft Exchange Server Administration, MQSeries, WEB Methods, Vitria, SAP, Peoplesoft, Lotus Domino Server Administration. Send resumes to resumes@ansel.com.

Full time Systems Analyst and Systems Designer Architect positions available. Requirements and salary vary per position. Send resumes to: Athens Heart Center, 2005 Prince Ave, Athens, GA 30606. Attn: Sharon Eades.

APPLICATION SOFTWARE ENGINEER for Miami based software consultancy firm to design and develop software solutions to build/integrate systems and create applications. Degree plus experience required. Send resumes to FTI Financial Technologies Inc., 11098 Biscayne Blvd., #403, Miami, Florida 33161

Responsible for coding, designing and re-engineering Web applications for clients. Write applications using C++, Rational Rose, UML and object oriented analysis and design. Responsible for dealing with the business partners in gathering the requirements and creating specifications. Must have a Bachelor's degree in CS or foreign degree equivalent. Must have 1 year of exp. in job offered. Salary Competitive. Send resume to: Raj Shekaran, Software Research Assoc. 70 Mansell Ct. Ste 100 Roswell, GA 30076

Sr. System Analysts sought by co in Lawrenceville, NJ to lead turnkey project to dsgn & dvlp complete s/ware systems for environmntl industry. Successful candidates must possess leadership + following qualifs. MS in Comp Sci, MIS or Comp Engrng w/min 2 yrs exp. in C/S system dvlpmnt and relational d/base dsgn. Strong skills in Java, C, C++, Oracle, SQL server, AS400, VB, RPG & PC h/ware. $70K. Send resume to HR Mgr, EndoTech, 11 Princess Rd, Unit A, Lawrenceville, NJ 08648

Computer Programmer/Analyst for a direct mail service. Must have two years exp in systems and program development using Foxpro, BCC, MailManager, DOCRIGHT. One yr. exp. in direct mail industry. Send resume to: Prodigy Mailing Services, Inc., 1247 Lakeside Drive, Romeoville, IL 60446

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Programmer sought by NJ based Securities Dealer. Must possess Master's Degree or equivalent in Management, Information Systems or related field and 1 year exp in the software/systems development and design. Respond to Human Resources Department, Knight Trading Group, Inc., 525 Washington Blvd., Jersey City, NJ 07310

Sr. Forte Developer/Process Analyst for telecom domain appl development/integration. Will design, write, test and deploy Forte, and present/update OOAD artifacts. Require Bachelors/ equiv and 5 yrs telecom domain exp including 3 yrs Forte development exp using OOAD modeling tools. Job in Miami, FL or 100% travel required w/relocation to other client sites possible. Resumes to M. McDade, SSIT North America, 210 INTERSTATE NORTH PKWY, SUITE 100, ATLANTA, GA 30339

Programmer/Analyst. Analyze, design and develop integrated healthcare apps. using Visual Basic, Windows NT design of GUI, VB.NET, ASP, ASP.NET, Crystal Reports, SQL Server 7.0/2000. Prevailing wage/benefits. 2 yrs. exp. in developing healthcare apps using above tools. BS (or foreign equiv.). Send resume to HR, MDS International, Inc. 11330 Lake Field Dr., Ste. 140, Duluth, GA 30097. EOE.

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COMPUTER PROGRAMMER wanted by plastic bags manufacturer in Houston, TX. Respond by resume to Ms. H Leung, Y/T, Nation Plastics, Inc., 6666 Harwin Dr., #508, Houston, TX 77036.

Advisory Engineer, Essex Junction, VT. Develop Analog and RF MOSFET models; design device layout for model extraction, develop compact device models for CASD design kits; perform statistical data analysis; model parameter extraction, model file coding; simulation of device-level characteristics from within CAD environment, coordinate measurements with characterization lab; work with design automation team on the integration of models within the design kit; provide support to applications team for responding to and resolving customer problems utilizing CAD tools, Cadence Analog Artist Framework, HSPICE and MATLAB. Requires Master's degree or equivalent in Engineering, Computer Science or MIS and one (1) year of experience in the job offered or one (1) year of experience in the related occupation of Applications Engineer. We will accept a Bachelor's degree and five years of progressively more responsible experience in lieu of a Master's degree. $99,508.00 per year. 40 hours per week, 9:00am - 5:00pm. SEND RESUMES TO Job Order No. 613350, Jobs and Training Division, VT Department of Employment and Training, P.O. 488, Montpelier, VT 05601-0488.

PROGRAMMER ANALYST (Jersey City) Analyze, define and document requirements for data, workflow, logical process, hardware & op. system environment, interfaces with other systems, internal/external checks & controls & outputs. Write and maintain tech specs. Design, develop and maintain client-server and multi-tier applications using DCOM and Visual Basic, and database systems, design tables, create hierarchies, resolve issues of database security, integrity and query optimization. Create design docs using Rational Rose and Erwin; perform database adm of Oracle servers. Train and support staff on product application. Conduct studies on development of new Info systems. Travel to customers sites when necessary. B.S. Computer Sci. + 1 yr. exp. Send resume to ISHI SYSTEMS, One Exchange Place, Suite 308, Jersey City, NJ 07302.

Software Developer: A Management Consulting firm specializing in business-IT alignment is seeking a Software Developer who will be responsible for planning, developing, modifying & testing our proprietary project portfolio management software suites. Req'd: Bachelor degree in Comp Sci, Engineering or related. 2 yrs exp in the job offered or 2 yrs exp as Applications Programmer or related. Must have exp w/component/object oriented relational database programming in Borland Delphi. Must have knowledge of web technologies, incl Visual C++, TCP/IP Win (95/98/NT), and scripting (PHP&ASP). Send res. to Hindy Silverman, United Management Technologies, 500 5th Ave. #430, NY, NY 10110.

Programmer wanted by Mktg Communications Co to TX. Dvlp, maintain & implement cust client/server appls, create databases & web-based solutions, dvlp & maintain prgms. Bach to Comp Sci or Engr & 2yrs exp to job offered req. Respond to: YW/HR Dept, PO Box 4241, GCS, NY 10163.

SYNAPSE GROUP, INC., a leading computerized magazine marketing company, is looking to hire a qualified MARKET RESEARCH ANALYST. Responsibilities include: reviewing and evaluating the profitability and effectiveness of company's marketing programs, developing financial and business models for existing and targeted client sales, implementing financial planning solutions, and examining and analyzing statistical data to forecast future marketing trends. Qualified applicants are required to possess at least a Bachelors degree in Business Administration, Economics, Finance or it's equivalent. A strong PC and SPSS background a plus. The company offers a competitive compensation/benefit package and an environment where achievements are recognized & professional growth encouraged. Qualified applicants are encouraged to mail resumes to: HR Dept., Synapse Group Inc., Four High Ridge Park, Stamford, CT 06905-1325.

Product Development Engineer (multiple openings) - Under close supervision of and receiving instructions from, the project management authority, assist in all of the following tasks: support automotive body structures for validating system design specification requirements; design and develop experiments to test various components for reliability, durability and performance in a variety of conditions encountered in normal operation using IDEAS, MSC NATRAN, HyperMESH and CAE, and design analyze and optimize structural solutions tests for various auto components including high mileage degradation, a special testing process for sheets metal and spot welds. Req's: Bach's in Mech Engg or its foreign ed. equiv. + 1 yr exp. in a related occup. Frequent relocation may be necessary. Send resume to J. Brigham, Onsite Companies, Inc., 7301 Parkway Dr. Hanover, MD 21046. Attn: G14002.

Product Design and Release Engineer (multiple full time openings) - Under close supervision of, and receiving instructions from, the project management authority, assist in designing test procedures for automotive component, assist in building automotive component prototype; act as liaison with suppliers to ensure adherence to parts specifications, quality, test procedures and deadlines for parts delivery; assist in releasing customer approved prototype for production; and use FORTRAN, Ansys, Matlab, Minitab and AutoCAD. Req's, Bachelor's in Mechanical Engineering or its foreign edu equiv. $45,000/yr. Frequent relocation may be necessary. Send resume to J. Brigham, Onsite Companies, Inc., 7301 Parkway Dr. Hanover, MD 21076. Attn: G7702.

Systems Analyst, 40 hrs/wk, 9 am - 5 pm, Monday to Friday, $72,000/yr. Design, develop software applications. Test software to insure performance to company and industry quality standards. Consult with other application designers and end users throughout all phases of design, implementation and testing. Use RPG/400, CL/400 and SQL/400 on IBM/400 computer. Requires Bachelor of Science degree in Computers and two years experience in job offered or as Programmer Analyst. Applicants must show proof of legal authority to work in the U.S. Please send resumes to Illinois Department of Employment Security, 401 South State Street –7 North Chicago, Illinois 60605, Attention: Leta Jackson, Reference #V-IL 27214-J. An Employer Paid Ad. No Calls. Send 2 copies of both resume and cover letter.

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- Websphere
- Com/DCom
- Web Architects
- Datawarehousing
- Informix, C or UNIX
- Oracle Developer or Designer 2000
- JAVA, HTML, Active X
- Web Commerce
- SAP/R3, ABAP/4 or FICO or MM & SD
- Oracle Applications & Tools
- Lotus Notes Developer
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Executive Consultant - Financial Services
Position available to analyze business requirements and objectives for major banks, brokerages, & insurance companies. Manage/direct completion of software/system integration for Proof of Concepts. Develop Work Assignments, Statements of Work & Requests for Proposal. Manage work of engagement and project team and oversee completion of complex software/system integration implementation projects. Develop/manage overall program/project - budget, structure, schedule, & staffing requirements. Identify & define repeatable software & system implementation (maps, strategies, etc.) that can/will be sold as new product and Service Offerings. Develop internal software/systems implementation documentation. Best Practices, Benchmarks, Tips & Strategies, and Metrics. MBA (Finance) or M.S. (MIS) and 3 yrs. exp. Exp. must include direct knowledge of database, software, applications & computer systems technology used, including conceptual understanding of integration products, processes & concepts for banks, financial securities markets, and trading spaces. Exp. with financials software applications consulting, business analysis, quality assurance procedures, Financial Services systems, software products & tools offerings; STP, SWIFT, etc; database logic; reporting/trading software(CRM), project-management tools (MS Project, Visio), internet & intranet messaging & transaction utilities, and 2 yrs. of Big Five exp. (incl. certifications for tools used in the industry). Fax resume to Mercator Software, Inc., Attn: John Addyman at (203) 761-8578.

WEB DEDVELOPER

EXECUTIVE GREETINGS INC., A business-to business direct marketing company, has an immediate opening in New Hartford, Connecticut, for a Web Developer.

Evaluate complex business needs to determine technical solutions to problems or improvements to the business environment. Create new systems by conferring with users to determine their software needs. Apply technical and business solutions and use data structure design and program technologies to satisfy user requirements.

Must possess a bachelor's degree or its equivalent in Computer Science or a related field and relevant work experience, including Windows NT/98, Sun Solaris, Java, Java Script, HTML, XML, Oracle, SQL Server, ASP, C++, EJB, J2EE, JSP, and Weblogic.

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Compliance

forms are in compliance with the new rules. Moreover, the company is planning to make the California law its national policy, in the hope that it will automatically comply in states that adopt similar identity-theft protection measures, said William Paukovitz, chief privacy officer and assistant vice president at Novato, Calif.-based Fireman's Fund.

But there's no guarantee that California's Social Security law will be the national model, said Paukovitz, who said he expects other states to adopt differing rules, forcing more system changes and higher costs. "We know that's going to happen," he said.

The California law is only one example pointing to a trend in new state regulations. Privacy is the leading issue, but the movement of states to adopt more aggressive laws that affect IT systems is most evident on the spam issue.

Eighteen states have adopted antispam laws, well ahead of Congress, which has been in an ongoing argument with marketing groups over the definition of spam and how tough to make the rules.

But the proliferation of state spam laws is making federal antispam legislation — and federal preemption of state laws — attractive to businesses. That's because "it's easier to deal with one law than 18," said Ronald L. Plesser, a partner at Washington law firm Piper Marbury Rudnick & Wolfe LLP who specializes in IT matters.

Steady Progress

As the lingering privacy debate in Congress shows, a single law can be slow in coming. Still, the critical mass of states needed to impose a de facto national standard is inching ahead.

"When is the point when it tips to the states? We are increasingly closer to that," said Emily Hackett, executive director of the Internet Alliance, a Washington-based industry group.

The pressure on Congress to preempt state laws by passing privacy legislation with baseline protections is increasing. But preemption is a hard sell to lawmakers. Congress refused to do that with the Gramm-Leach-Bliley Act, which stipulates how financial institutions can use customers' personal information. Moreover, the North Dakota vote — where 73% of the voters said they want a financial privacy standard that exceeds federal law — will make the state preemption argument even more difficult, say privacy experts.

The only way for companies to cope may be to adopt stringent privacy standards, said Toby Levin, a former U.S. Federal Trade Commission senior attorney who now works for Privacy Council Inc. in Richardson, Texas. If privacy is viewed as a customer-relationship-building asset, the "state activity may not make a whole lot of difference," Levin said.

Continued from page 1

SIM

position against UCITA and is trying to serve as a vehicle for an expanded public policy role for IT managers.

"Who is the voice of the practitioner when it comes to public policy?" asked Steve Finnerty, senior vice president and CIO at Kraft Foods Inc. in Northfield, Ill., and president of SIM. Much of what goes on in the public policy sphere "is vendor-dominated," he said.

KRAFT FOODS' Finnerty: The public policy sphere "is vendor-dominated."

But SIM members don't have the cash resources of industry groups, which Finnerty cited as a significant hurdle.

"Our leadership challenge is pooling our resources and the resources of many groups to ensure that the wants and needs of practitioners are considered," he said.

Filling a Void

Today, many IT managers don't know who to approach on public issues, said Frank Coker, president of Seattle-based consulting firm Information Systems Management Inc. and a longtime SIM member.

"There's just not a good way for the IT manager to come and represent his or her case. But the vendors have big stakes in this, and it's a lot easier for them to organize and go after some of these issues," he said.

SIM is "the logical organization" to represent the IT voice, according to Coker. However, because its relies on volunteers who often switch jobs and companies, "it's hard to keep continuity there," he noted. But the group has a "broad enough" base of IT executives to serve a real purpose, he said.

One SIM strength is its state chapters, which give it a grassroots presence.

Among those focusing on the homefront is Ergin Uskup, senior vice president and CIO at United Stationers Inc. in Des Plaines, Ill., and head of his local SIM chapter. He said that he's interested in pursuing tougher antihacking laws and that he believes IT managers have a much better chance of being heard on a state level than in Congress.

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Web Services

said companies can use Web services tools, such as the Simple Object Access Protocol, to build open application programming interfaces that let their developers reuse and reassemble applications as needed.

The concept comes from the same object-based background as older technologies such as the Common Object Request Broker Architecture. But the Web-centric nature of the new architectures should make them less complex to design and manage, said Daryl Plummer, an analyst at Stamford, Conn.-based Gartner.

However, conference attendees acknowledged that building a complete service-oriented framework could cost companies millions of dollars for new software, application redesign work and IT staff training. It will also require much tighter central control of application development processes and new classes of software tools, they added.

"This is all right at the beginning stages," said Cort Klein, a systems architect at Pacific Life Insurance Co. in Newport Beach, Calif. "First, we need to get object-based processes in place, and the whole organization has to understand those processes, not just IT."

Irresistible Draw

Despite all the challenges, Klein predicted that the promise of rapid application development and simplified software maintenance and extensibility will eventually prove irresistible.

Plummer agreed. "It's not a matter of choice; it's a matter of timing," he said. Plummer estimated that it could take until 2006 for leading-edge companies to put full-scale service-oriented architectures in place. But before then, he said, IT managers can start moving toward service-oriented models incrementally as they develop new applications or upgrade existing ones.

To make a full flowering possible, Plummer and other Gartner analysts cited a need for the development of Web services security standards and new software that manages and monitors middleware workflow routines. Application servers, integration-brokering tools and portal software will likely be combined into unified suites within the next two years, they said.

Some attendees pointed to other hurdles that will have to be cleared. For example, Chris Colao, an IT project manager at San Francisco-based ChevronTexaco Corp., said application developers at multinational corporations often don't conform to monolithic internal standards, making it difficult to drive the adoption of sweeping new policies.

Natalio Rivas, an application support and technical services manager at Duke Energy Corp. in Charlotte, N.C., called service-oriented architectures "wonderful on paper." But, he said, IT managers face pressure to deliver projects on time. "In those cases, you do what you've always done because you know that works," Rivas noted.

BUDGETARY ROADBLOCKS

Read how some companies are approaching service-oriented implementations in today's tight economy.

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[illegible] tasks [illegible] to [illegible] new software [illegible] [illegible] Jessica Wolf. [illegible] using Java [illegible] to [illegible] [illegible] [illegible] development process and new issues of software tools, they added.

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Services Orientation

WHAT USERS SHOULD DO:

- Separate transactions from user interface components of applications to maintain flexibility
- Put as much emphasis on application integration as on the development of custom features.

SOURCE: GARTNER INC., STAMFORD, CONN.

BUDGETARY ROADBLOCKS

[illegible] Duke University in Durham, N.C., called service-oriented architectures "wonderful on paper." But he said, IT managers face pressure to deliver projects on time. "In those cases, you do what you've always done to ensure you know that works," Kleim noted.

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FRANK HAYES/FRANKLY SPEAKING

Security: Today's Y2k

SECURITY IS THE NEW Y2K. Oh, the mapping isn't exact. With Y2k, there was an immovable deadline and a huge but finite number of problems to fix. With security, there's no zero hour, and the number of potential attacks is limitless. But both Y2k and security offer exactly zero return on investment — the payoff isn't efficiency or a better way of doing business, just survival. And as with Y2k, lots of people are using security concerns to chase their own agendas.

In the Y2k days, it was dehydrated-food salesmen, political and religious extremists and, of course, magic-bullet software and hard-

ware vendors. Last week, we got another taste of the security version: a vendor trying to drum up business by announcing a security flaw it found in widely used software, sending out publicity but neglecting to even tell the software's maker — and theo issuing a patch that didn't actually fix the problem (see story, page 18).

That's on top of politicians, corporate executives and, of course, hardware and software vendors who are already playing the security angle for everything it's worth. Security is the reason cited for spending money, cutting budgets, hiding information, manipulating markets, grabbing publicity and pushing whatever slow-selling products a vendor believes can be pitched with a security hook.

And we know what that means for corporate IT shops: If we don't put together our own agendas, we'll end up getting pushed around or even swept away by whatever hogwash or hucksterism our CEOs read in a daily newspaper or an in-flight magazine.

What should go on our agenda? If we're putting in new systems, we've got to lean hard on vendors for tighter products and faster fixes when security holes are discovered. And we must learn those systems and their security issues before they go live — and carefully choose settings and pay close attention to possible interactions between a new installation and our existing systems.

If tight budgets mean our systems are effectively frozen, we've got to take advantage of that by locking everything down. That's much easier to do when nothing is changing. Now's the time to go over everything with a fine-toothed comb, making sure all patches are in place, all settings are at their most secure and all holes are closed.

We've got to tweak our firewalls and update our antivirus software to make sure they protect our users from today's security threats, not just the threats of last mooth or last year.

We've got to raise the awareness of our users. Yes, again. And no, they don't want to hear another reminder not to opeo virus-laden e-mail or circumvent security — but they do *need* to hear it. They're our most vulnerable spot, the soft underbelly of Fortress IT.

It's not a good time for security training for IT staffers — chances are, the training budget shriveled up early oo as budgets got cut — but it has to be done. Eveo if that just means paying for some security books out of petty cash for IT staffers to pass around and study when they can, it sends a signal: We're serious about security, even if we can't get the security and training budgets we need from top management.

And we've got to start making a case for those budgets to the CEO. That means tracking attacks oo our systems, counting viruses and worms blocked and security holes closed — and then reporting those numbers to the boss, along with our estimates of what it will take to keep the organization secure and the potential cost of failure.

Frank Hayes, *Computerworld*'s senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

Those aren't oumbers top management will want to hear — or wanted to hear about Y2k, either.

But as with Y2k, IT may be the only place the CEO can get an agenda that's focused on doing what's right for the business. And wheo it comes to security, that's the only agenda that will truly help the business survive. ▶

SHARK TANK

TECHNICIAN tells IT manager pilot fish he's having trouble fixing something called a spooler error. That's a printer problem, says fish, and you usually solve it by stopping and restarting the spooler service. "Well, I sort of stopped the spooler service," tech says. OK, how did you do that? fish asks. Tech: "I formatted the hard drive."

NEW IT director cuts a deal with an outside training outfit so the whole IT staff can "get certified." Two weeks later, he brags that he's third in the world on a test of IT industry knowledge, says pilot fish. But boss admits he took the test 16 times – and cheated. He urges fish to cheat, too: "You'll learn something," he says. "I've gained a deeper understanding of the computer industry through this method."

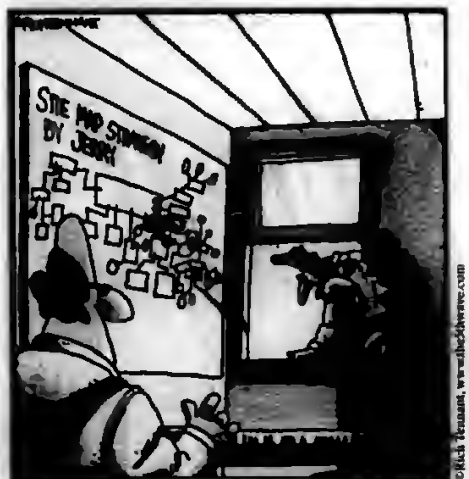
THIS COUNTY jail's new system is supposed to combine perp data with fingerprint files and send it all off to the state. But project manager quits midproject, and the new PM is furious that the system doesn't work. Why won't it send the files? he snarls at subordinates. Sysadmin pilot fish uncovers the problem with a single question: "Is it on the network?"

PILOT FISH comes up with clever way to streamline processes: He looks in offices for piles of paper, figures out what process produced them, then does spot automation projects to eliminate the paper. For his efforts he receives a "special recognition" award: an ornate, personalized paper clip holder.

IT'S TIME to replace the computer room's water sprinklers with a less-damaging fire suppression system, and pilot fish is reviewing bids. One salesman tells fish to stick with sprinklers: "You could throw a bucket of water on all these servers, and it won't damage any of it! This I know! Besides, if there was a fire, a cleanup crew would scrub the residue out of the equipment with soap and water anyway."

Tell me your tale: **sharky@computerworld.com**. You score a sharp Shark shirt if we use your true story of IT life. And check out the daily feed, browse the Sharkives and sign up for Shark Tank home delivery at *computerworld.com/sharky*.

The 5th Wave



"Okay, well, I think we all get the gist of where Jerry was going with the site map."

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